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**REPORT OF THE MARITIME SAFETY COMMITTEE
ON ITS EIGHTY-THIRD SESSION**

Attached are annexes 18 to 31, 33, 34 and 36 to 44 to the report of the Maritime Safety Committee on its eighty-third session (MSC 83/28).

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ANNEX 18

**RESOLUTION MSC.246(83)
(adopted on 8 October 2007)**

**ADOPTION OF PERFORMANCE STANDARDS FOR
SURVIVAL CRAFT AIS SEARCH AND RESCUE TRANSMITTERS (AIS-SART)
FOR USE IN SEARCH AND RESCUE OPERATIONS**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21) on Procedure for the adoption of, and amendments to, performance standards and technical specifications, by which the Assembly resolved that the function of adoption performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee,

RECOGNIZING that new designs of radar are being introduced which do not employ traditional pulsed technology,

RECOGNIZING ALSO that ships are now fitted with an automatic identification system (AIS),

NOTING the results of operational trials on AIS Search and Rescue Transmitter (AIS-SART) reported by Governments,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Radiocommunications and Search and Rescue at its eleventh session, and the Maritime Safety Committee at its eighty-third session,

1. ADOPTS the Recommendation on Performance Standards for survival craft AIS Search and Rescue Transmitter (AIS-SART) for Use in Search and Rescue Operations set out in the Annex to the present resolution;
2. RECOMMENDS Governments to ensure that AIS-SARTs used in search and rescue operations installed on or after 1 January 2010 conform to the performance standards not inferior to those set out in annex to the present resolution.

ANNEX

PERFORMANCE STANDARDS FOR SURVIVAL CRAFT AIS SEARCH AND RESCUE TRANSMITTERS (AIS-SART) FOR USE IN SEARCH AND RESCUE OPERATIONS

1 INTRODUCTION

AIS Search and Rescue Transmitter (AIS-SART), in addition to meeting the requirements of the relevant ITU-R Recommendation and the general requirements set out in resolution A.694(17)*, should comply with the following performance standards.

2 GENERAL

The AIS-SART should be capable of transmitting messages that indicate the position, static and safety information of a unit in distress. The transmitted messages should be compatible with existing AIS installations. The transmitted messages should be recognized and displayed by assisting units in the reception range of AIS-SART, and clearly distinguish the AIS-SART from an AIS installation.

2.1 The AIS-SART should:

- .1 be capable of being easily activated by unskilled personnel;
- .2 be fitted with means to prevent inadvertent activation;
- .3 be equipped with a means which is either visual or audible, or both visual and audible, to indicate correct operation;
- .4 be capable of manual activation and deactivation; provision for automatic activation may be included;
- .5 be capable of withstanding without damage drops from a height of 20 m into water;
- .6 be watertight at a depth of 10 m for at least 5 min;
- .7 maintain water tightness when subjected to a thermal shock of 45°C under specified conditions of immersion;
- .8 be capable of floating (not necessarily in an operating position) if it is not an integral part of the survival craft;
- .9 be equipped with buoyant lanyard, suitable for use as a tether, if it is capable of floating;
- .10 not be unduly affected by seawater or oil;
- .11 be resistant to deterioration in prolonged exposure to sunlight;

* Publication IEC 60945.

- .12 be of a highly visible yellow/orange colour on all surfaces where this will assist detection;
- .13 have a smooth external construction to avoid damaging the survival craft;
- .14 be provided with an arrangement to bring the AIS-SART antenna to a level of at least 1 metre above sea level, together with illustrated instructions;
- .15 be capable of transmitting with a reporting interval of 1 minute or less;
- .16 equipped with an internal position source and be capable of transmitting its current position in each message; and
- .17 be capable of being tested for all functionalities using specific test information.

2.2 The AIS-SART should have sufficient battery capacity to operate for 96 h within a temperature range of -20°C to +55°C, and to provide for testing of the functions on the equipment. The AIS-SART should have a unique identifier to ensure the integrity of the VHF data link.

2.3 The AIS-SART should be so designed as to be able to operate under ambient temperatures of -20°C to +55°C. It should not be damaged in stowage throughout the temperature range of -30°C to +70°C.

2.4 The AIS-SARTs should be detectable at a range of 5 nautical miles over water.

2.5 The AIS-SART should continue transmission even if the position and time synchronization from the positioning system is lost or fails.

2.6 The AIS-SART should transmit within 1 minute of activation.

3 TECHNICAL CHARACTERISTICS

Technical characteristics of the AIS-SART should be in accordance with relevant ITU recommendations.

4 LABELLING

In addition to the items specified in resolution A.694(17)**, the following should be clearly indicated on the exterior of the equipment:

- .1 brief operating and test instructions; and
- .2 expiry date for the primary battery used.

** Recommendations on general requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids

ANNEX 19

**RESOLUTION MSC.247(83)
(adopted on 8 October 2007)**

**ADOPTION OF AMENDMENTS TO PERFORMANCE STANDARDS
FOR SURVIVAL CRAFT RADAR TRANSPONDERS
FOR USE IN SEARCH AND RESCUE OPERATIONS
(RESOLUTION A.802(19))**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21) on Procedure for the adoption of, and amendments to, performance standards and technical specifications, by which the Assembly resolved that the function of adoption performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Radiocommunications and Search and Rescue at its eleventh session, and the Maritime Safety Committee at its eighty-third session,

1. ADOPTS the amendments to resolution A.802(19) on performance standards for survival craft radar transponders for use in search and rescue operations;
2. RECOMMENDS Governments to ensure that SARTs used in search and rescue operations installed on or after 1 January 2010 conform to the performance standards not inferior to those set out in annex to the present resolution.

ANNEX

**AMENDMENTS TO PERFORMANCE STANDARDS
FOR SURVIVAL CRAFT RADAR TRANSPONDERS
FOR USE IN SEARCH AND RESCUE OPERATIONS
(RESOLUTION A.802(19))**

Amend section 2, paragraph 2.5 to read as follows:

“2.5 Horizontal polarization or circular polarization should be used for transmission and reception.”

ANNEX 20

DRAFT AMENDMENTS TO REGULATIONS III/6.2.2, III/26.2.5 AND IV/7.1.3 OF, AND THE APPENDIX TO THE ANNEX, TO THE 1974 SOLAS CONVENTION**CHAPTER III****LIFE-SAVING APPLIANCES AND ARRANGEMENTS****Regulation 6 – Communications**

1 The existing paragraph 2.2 is replaced by the following:

“2.2 Search and rescue locating devices

At least one search and rescue locating device shall be carried on each side of every passenger ship and of every cargo ship of 500 gross tonnage and upwards. At least one search and rescue locating device shall be carried on every cargo ship of 300 gross tonnage and upwards but less than 500 gross tonnage. Such search and rescue locating devices shall conform to performance standards not inferior to those adopted by the Organization.* The search and rescue locating devices** shall be stowed in such location that they can be rapidly placed in any survival craft other than the liferaft or liferafts required by regulation 31.1.4. Alternatively one search and rescue locating device shall be stowed in each survival craft other than those required by regulation 31.1.4. On ships carrying at least two search and rescue locating devices and equipped with free-fall lifeboats one of the search and rescue locating devices shall be stowed in a free-fall lifeboat and the other located in the immediate vicinity of the navigation bridge so that it can be utilized on board and ready for transfer to any of the other survival craft.”

Regulation 26 – Additional requirements for ro-ro passenger ships

2 The existing paragraph 2.5 is replaced by the following:

“Liferafts carried on ro-ro passenger ships shall be fitted with a search and rescue locating device in the ratio of one search and rescue locating device for every four liferafts. The search and rescue locating device shall be mounted inside the liferaft so its antenna is more than one metre above the sea level when the liferaft is deployed, except that for canopied reversible liferafts the search and rescue locating device shall be so arranged as to be readily accessed and erected by survivors. Each search and rescue locating device shall be arranged to be manually erected when the liferaft is deployed. Containers of liferafts search and rescue locating devices shall be clearly marked.”

* Refer to the Recommendation on performance standards for survival craft radar transponders for use in search and rescue operations, adopted by the Organization by resolution MSC.247(83) (A.802(19), as amended) and the Recommendation on performance standards for survival craft AIS Search and Rescue transmitter (AIS-SART), adopted by the Organization by resolution MSC.246(83).

** One of these search and rescue locating devices may be the search and rescue locating device required by regulation IV/7.1.3.

CHAPTER IV

RADIOCOMMUNICATIONS

Regulation 7 – Radio equipment: General

3 The existing subparagraph .3 of paragraph 1 is replaced by the following:

“.3 a search and rescue locating device capable of operating either in the 9 GHz band or on frequencies dedicated for AIS, which:”

APPENDIX CERTIFICATES

Record of Equipment for the Nuclear Passenger Ship Safety Certificate (Form PNUC)

4 In the Record of Equipment for Nuclear Passenger Ship Safety Certificate (Form PNUC), in section 2, the existing item 11.1 is replaced by the following:

“11.1 Number of search and rescue locating devices
11.1.1 Radar search and rescue transponders (SART)
11.1.2 AIS search and rescue transmitters (AIS-SART)”

and in section 3, the existing item 6 is replaced by the following:

“6 Ship’s search and rescue locating device
6.1 Radar search and rescue transponder (SART)
6.2 AIS search and rescue transmitter (AIS-SART)”

Record of Equipment for the Nuclear Cargo Safety Certificate (Form CNUC)

5 In the Record of Equipment for Nuclear Cargo Ship Safety Certificate (Form CNUC), in section 2, the existing item 10.1 is replaced by the following:

“10.1 Number of search and rescue locating devices
10.1.1 Radar search and rescue transponders (SART)
10.1.2 AIS search and rescue transmitters (AIS-SART)”

and in section 3, the existing item 6 is replaced by the following:

“6 Ship’s search and rescue locating device
6.1 Radar search and rescue transponder (SART)
6.2 AIS search and rescue transmitter (AIS-SART)”

ANNEX 21

**DRAFT AMENDMENTS TO THE 1988 SOLAS PROTOCOL
 MODIFICATIONS AND ADDITIONS TO THE ANNEX TO THE
 INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974**

APPENDIX

**MODIFICATIONS AND ADDITIONS TO THE APPENDIX TO
 THE ANNEX TO THE INTERNATIONAL CONVENTION
 FOR THE SAFETY OF LIFE AT SEA, 1974**

(Note: In view of a number of amendments which have not yet entered into force or have been approved with a view to adoption, the references to the existing items need to be checked at the stage of the adoption.)

Record of Equipment for Passenger Ship Safety Certificate (Form P)

1 In the Record of Equipment for Passenger Ship Safety Certificate (Form P), in section 2, the existing item 11.1 is deleted and replaced by the following:

- “11.1 Number of search and rescue locating devices
- 11.1.1 Radar search and rescue transponders (SART)
- 11.1.2 AIS search and rescue transmitters (AIS-SART)”

2 In the Record of Equipment for Passenger Ship Safety Certificate (Form P), in section 3, the existing item 6 is deleted and replaced by the following:

- “6 Ship’s search and rescue locating device
- 6.1 Radar search and rescue transponder (SART)
- 6.2 AIS search and rescue transmitter (AIS-SART)”

Record of Equipment for Cargo Ship Safety Equipment Certificate (Form E)

3 In the Record of Equipment for Cargo Ship Safety Equipment Certificate (Form E), in section 2, the existing item 9.1 is deleted and replaced by the following:

- “9.1 Number of search and rescue locating devices
- 9.1.1 Radar search and rescue transponders (SART)
- 9.1.2 AIS search and rescue transmitters (AIS-SART)”

Record of Equipment for Cargo Ship Radio Certificate (Form R)

4 In the Record of Equipment for Cargo Ship Safety Radio Certificate (Form R), in section 2, the existing item 6 is deleted and replaced by the following:

- “6 Ship’s search and rescue locating device
- 6.1 Radar search and rescue transponder (SART)
- 6.2 AIS search and rescue transmitter (AIS-SART)”

Record of Equipment for the Cargo Ship Safety Certificate (Form C)

5 In the Record of Equipment for Cargo Ship Safety Certificate (Form C), in section 2, the existing item 10.1 is deleted and replaced by the following:

- “10.1 Number of search and rescue locating devices
- 10.1.1 Radar search and rescue transponders (SART)
- 10.1.2 AIS search and rescue transmitters (AIS-SART)”

6 In the Record of Equipment for Cargo Ship Safety Certificate (Form C), in section 3, the existing item 6 is deleted and replaced by the following:

- “6 Ship’s search and rescue locating device
- 6.1 Radar search and rescue transponder (SART)
- 6.2 AIS search and rescue transmitter (AIS-SART)”

ANNEX 22**DRAFT AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY
FOR HIGH-SPEED CRAFT, 1994 (1994 HSC CODE)****CHAPTER 8
LIFE-SAVING APPLIANCES AND ARRANGEMENTS****8.2 Communications**

1 The existing subparagraph .2 of paragraph 8.2.1 is replaced by the following:

“.2 at least one search and rescue locating device shall be carried on each side of every passenger high-speed craft and every cargo high-speed craft of 500 gross tonnage and upwards. Such search and rescue locating device should conform to performance standards not inferior to those adopted by the Organization.¹ The search and rescue locating device should be stowed in such locations that they can be rapidly placed in any one of the liferafts. Alternatively, one search and rescue locating device should be stowed in each survival craft.”

**CHAPTER 14
RADIOCOMMUNICATIONS****14.6 Radio equipment: general**

2 The existing subparagraph .3 of paragraph 14.6.1 is replaced by the following:

“.3 a search and rescue locating device which:”

¹ Refer to the Recommendation on performance standards for survival craft radar transponders for use in search and rescue operations, adopted by the Organization by resolution MSC.247(83) (A.802(19), as amended) and the Recommendation on performance standards for survival craft AIS Search and Rescue transmitter (AIS-SART), adopted by the Organization by resolution MSC.246(83).

ANNEX 23**DRAFT AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY
FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)****CHAPTER 8
LIFE-SAVING APPLIANCES AND ARRANGEMENTS****8.2 Communications**

1 The existing subparagraph .2 of paragraph 8.2.1 is replaced by the following:

“.2 at least one search and rescue locating device shall be carried on each side of every passenger high-speed craft and every cargo high-speed craft of 500 gross tonnage and upwards. Such search and rescue locating device shall conform to performance standards not inferior to those adopted by the Organization.* The search and rescue locating device shall be stowed in such locations that they can be rapidly placed in any one of the liferafts. Alternatively, one search and rescue locating device shall be stowed in each survival craft.”

**CHAPTER 14
RADIOCOMMUNICATIONS****14.7 Radio equipment: general**

2 The existing subparagraph .3 of paragraph 14.7.1 is replaced by the following:

“.3 a search and rescue locating device which:”

* Refer to the Recommendation on performance standards for survival craft radar transponders for use in search and rescue operations, adopted by the Organization by resolution MSC.247(83) (A.802(19), as amended) and the Recommendation on performance standards for survival craft AIS Search and Rescue transmitter (AIS-SART), adopted by the Organization by resolution MSC.246(83).

ANNEX 24

**NEW AND AMENDED TRAFFIC SEPARATION SCHEMES AND
ASSOCIATED ROUTEING MEASURES**

**NEW TRAFFIC SEPARATION SCHEME “MAAS NORTH-WEST”
FORMING PART OF THE ROUTEING SYSTEM “IN THE APPROACHES TO HOOK
OF HOLLAND AND AT NORTH HINDER”**

(Reference Chart: Netherlands 1630 (INT 1416) (Edition 1 dated February 2005)

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84.)

2 Maas North-West traffic separation scheme

(a) A separation zone is bounded by a line connecting the following geographical positions:

(13) 52° 08'.01 N 003° 39'.60 E (14) 52° 06'.34 N 003° 43'.33 E
(15) 52° 06'.12 N 003° 42'.98 E (16) 52° 07'.77 N 003° 39'.30 E

(b) A traffic lane for north-westbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(11) 52° 07'.40 N 003° 45'.00 E (12) 52° 09'.16 N 003° 41'.06 E

(c) A traffic lane for south-eastbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(17) 52° 06'.61 N 003° 37'.84 E (18) 52° 05'.06 N 003° 41'.32 E

**NEW TRAFFIC SEPARATION SCHEME “ON THE APPROACHES TO THE POLISH
PORTS IN THE GULF OF GDAŃSK”**

(Reference chart: Polish Chart No.73 (INT 1288) published by the Hydrographic Office of the Polish Navy (Edition 2004).

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84.)

TRAFFIC SEPARATION SCHEME “EAST”

The traffic separation scheme (TSS) “East” consists of:

- two traffic lanes 1.0 nautical mile wide;
- one intermediate traffic separation zone 0.5 mile wide in two parts: northeast and southwest;
- one traffic separation line connecting two parts of the intermediate traffic separation zone.

The direction of navigation is:

- inbound traffic lane, 163° (T) from the seaward limit of the scheme to the turning point marked by the buoy ZN, thence 206° to the southern limit of the scheme marked by the buoy ZS northeast of the Gdańsk Northern Port (Port Północny) pilot embarkation position;

- outbound traffic lane, 026° (T) as far as the turning point marked by the buoy ZN, thence 343° (T) to the seaward limit of the scheme.

Description of the traffic separation scheme (the co-ordinates listed below are in WGS-84):

- (a) A northeast separation zone is bounded by a line connecting the following geographical positions:

(1)	54° 40'.43 N	019° 03'.79 E
(2)	54° 40'.57 N	019° 04'.61 E
(3)	54° 37'.33 N	019° 06'.28 E
(4)	54° 37'.19 N	019° 05'.46 E

- (b) A southwest separation zone is bounded by a line connecting the following geographical positions:

(5)	54° 36'.47 N	019° 05'.36 E
(6)	54° 36'.26 N	019° 06'.13 E
(7)	54° 26'.45 N	018° 58'.03 E
(8)	54° 26'.67 N	018° 57'.25 E

- (c) A traffic separation line connecting the following geographical positions:

(9)	54° 37'.26 N	019° 05'.87 E
(10)	54° 36'.80 N	019° 06'.10 E (buoy ZN)
(11)	54° 36'.36 N	019° 05'.74 E

- (d) A traffic lane for inbound traffic is established between the separation zone line and a line connecting the following geographical positions:

(12)	54° 40'.15 N	019° 02'.15 E
(13)	54° 36'.90 N	019° 03'.81 E
(14)	54° 27'.10 N	018° 55'.71 E

- (e) A traffic lane for outbound traffic is established between the separation zone line and a line connecting the following geographical positions:

(15)	54° 40'.86 N	019° 06'.26 E
(16)	54° 36'.69 N	019° 08'.39 E
(17)	54° 26'.02 N	018° 59'.57 E

TRAFFIC SEPARATION SCHEME “WEST”

The traffic separation scheme (TSS) “West” consists of:

- two traffic lanes 0.75 to 0.5 mile wide (northeast part of the TSS) separated by traffic separation line;
- two traffic lanes 0.5 mile wide in two parts (southwest and west) separated by traffic separation line;

- one precautionary area;
- one associated inshore traffic zones.

The direction of navigation is:

- inbound traffic lane, 205° from the seaward limit of the scheme to the turning point marked by the buoy HEL (northeast part of the TSS), then 221° as far as the turning point at the buoy GN in the Precautionary Area, thence:
 - 221° to the southwestern limit of the scheme marked by the buoy NP northeast of the Gdańsk New Port (Nowy Port) pilot embarkation position; or
 - 092° to the western limit of the scheme marked by the buoy GD east of the Gdynia pilot embarkation position;
- outbound traffic lane: 041° (southwest part of the TSS for vessels leaving Gdańsk New Port (Nowy Port) or 272° (west part of the TSS for vessels leaving Gdynia) to the turning point marked by the buoy GN in the Precautionary Area, then 041° as far as the turning point at the buoy HEL, thence 025° to the seaward limit of the scheme.

Description of the traffic separation scheme (the co-ordinates listed below are in WGS-84):

Northeast part:

(f) A separation line connecting the following geographical positions:

(18)	54° 40'.00 N	018° 57'.00 E
(19)	54° 36'.30 N	018° 54'.00 E
(20)	54° 35'.43 N	018° 53'.29 E (buoy HEL)
(21)	54° 35'.10 N	018° 52'.80 E
(22)	54° 32'.40 N	018° 48'.74 E

(g) A traffic lane for inbound traffic is established between the separation line and a line connecting the following geographical positions:

(23)	54° 40'.32 N	018° 55'.84 E
(24)	54° 36'.62 N	018° 52'.84 E
(25)	54° 35'.43 N	018° 52'.15 E
(26)	54° 32'.73 N	018° 48'.09 E

(h) A traffic lane for outbound traffic is established between the separation line and a line connecting the following geographical positions:

(27)	54° 39'.68 N	018° 58'.16 E
(28)	54° 35'.98 N	018° 55'.16 E
(29)	54° 34'.77 N	018° 53'.45 E
(30)	54° 32'.07 N	018° 49'.39 E

Precautionary area:

- (i) A precautionary area bounded by a line connecting the following geographical positions:

(31)	54° 32'.07 N	018° 49'.39 E
(32)	54° 32'.40 N	018° 48'.74 E
(33)	54° 32'.73 N	018° 48'.09 E
(34)	54° 32'.44 N	018° 46'.22 E
(35)	54° 31'.94 N	018° 46'.20 E
(36)	54° 31'.45 N	018° 46'.17 E
(37)	54° 31'.12 N	018° 46'.81 E
(38)	54° 30'.79 N	018° 47'.46 E
(39)	54° 31'.56 N	018° 48'.61 E

Southwest part:

- (j) A separation line connecting the following geographical positions:

(40)	54° 31'.12 N	018° 46'.81 E
(41)	54° 28'.48 N	018° 42'.84 E

- (k) A traffic lane for inbound traffic is established between the separation line and a line connecting the following geographical positions:

(42)	54° 31'.45 N	018° 46'.17 E
(43)	54° 28'.81 N	018° 42'.20 E

- (l) A traffic lane for outbound traffic is established between the separation line and a line connecting the following geographical positions:

(44)	54° 30'.79 N	018° 47'.46 E
(45)	54° 28'.15 N	018° 43'.49 E

West part:

- (m) A separation line connecting the following geographical positions:

(46)	54° 31'.94 N	018° 46'.20 E
(47)	54° 32'.04 N	018° 41'.10 E

- (n) A traffic lane for inbound traffic is established between the separation line and a line connecting the following geographical positions:

(48)	54° 32'.44 N	018° 46'.22 E
(49)	54° 32'.54 N	018° 41'.13 E

- (o) A traffic lane for outbound traffic is established between the separation line and a line connecting the following geographical positions:

(50)	54° 31'.45 N	018° 46'.17 E
(51)	54° 31'.54 N	018° 41'.07 E

- (p) Inshore traffic zone:

The inshore traffic zone is established in the waters between the inner limit of the northeastern and western part of the traffic separation scheme “WEST” and the adjacent Polish coast and limited:

- from north by a line connecting the following geographical positions:

(23)	54° 40'.32 N	018° 55'.84 E
(52)	54° 40'.32 N	018° 44'.85 E

- from west by a line connecting the following geographical positions:

(49)	54° 32'.54 N	018° 41'.13 E
(53)	54° 41'.66 N	018° 41'.13 E

Recommended track between GD and NP buoys

- 1 A recommended track is established between the following geographical positions:

(54)	54° 32'.05 N	018° 39'.84 E	(buoy GD)
(55)	54° 27'.90 N	018° 42'.05 E	(buoy NP)

- 2 The direction (T) of navigation is 163° – 343°.

Recommended track between GN and PP buoys

- 1 A recommended track is established between the following geographical positions:

(56)	54° 31'.56 N	018° 48'.61 E	(vicinity of buoy GN)
(57)	54° 28'.23 N	018° 54'.54 E	
(58)	54° 25'.88 N	018° 54'.54 E	(vicinity of buoy PP)

- 2 The directions (T) of navigation are: 134° – 314° and 000° – 180°.

NEW TRAFFIC SEPARATION SCHEMES “OFF THE SOUTHWEST COAST OF ICELAND”

(Reference chart: Icelandic Chart No.31 (INT 1105) Dyrhólaey – Snæfellsnes (new edition June 2004).

Note: The chart is based on World Geodetic System 1984 Datum (WGS-84).)

Description of the traffic separation schemes

Part I

Traffic separation scheme northwest of Gardskagi Point

The routing measures consist of a traffic separation scheme northwest of Gardskagi Point with attached two-way routes at both ends.

A separation zone is established bounded by a line connecting the following geographical positions:

- (1) 64° 09'.02 N 022° 41'.40 W
- (2) 64° 09'.02 N 022° 49'.60 W
- (3) 64° 07'.03 N 022° 53'.25 W
- (4) 64° 06'.65 N 022° 52'.14 W
- (5) 64° 08'.40 N 022° 48'.92 W
- (6) 64° 08'.40 N 022° 41'.40 W

A traffic lane for north-east-/east-bound traffic is established between the separation zone and a line connecting the following geographical positions:

- (7) 64° 05'.91 N 022° 50'.06 W
- (8) 64° 07'.20 N 022° 47'.51 W
- (9) 64° 07'.20 N 022° 41'.40 W

A traffic lane for west-/south-west-bound traffic is established between the separation zone and a line connecting the following geographical positions:

- (10) 64° 10'.26 N 022° 41'.40 W
- (11) 64° 10'.26 N 022° 50'.94 W
- (12) 64° 07'.80 N 022° 55'.46 W

Description of the two-way routes

A two-way route for east/west-bound traffic north of Gardskagi Point is established by lines connecting the following geographical positions:

- (9) 64° 07'.20 N 022° 41'.40 W
- (10) 64° 10'.26 N 022° 41'.40 W
- (13) 64° 10'.26 N 022° 33'.26 W
- (14) 64° 07'.20 N 022° 33'.26 W

A two-way route for north-east/south-west-bound traffic west of Gardskagi Point is established by lines connecting the following geographical positions:

- (15) 64° 05'.63 N 022° 59'.45 W
- (12) 64° 07'.80 N 022° 55'.46 W

- (16) 64° 03'.54 N 022° 54'.70 W
(7) 64° 05'.91 N 022° 50'.06 W

Part II

Traffic separation scheme southwest of the Reykjanes Peninsula

The routing measures consist of a traffic separation scheme southwest of the Reykjanes Peninsula, with an attached two-way route.

A separation zone is established bounded by a line connecting the following geographical positions:

- (30) 63° 31'.75 N 023° 32'.28 W
(31) 63° 33'.90 N 023° 33'.92 W
(32) 63° 31'.55 N 023° 33'.62 W
(33) 63° 33'.69 N 023° 35'.26 W

A traffic lane for north-north-west-bound traffic is established between the separation zone and a line connecting the following geographical positions:

- (29) 63° 32'.00 N 023° 29'.50 W
(34) 63° 34'.30 N 023° 31'.23 W

A traffic lane for south-south-east-bound traffic is established between the separation zone and a line connecting the following geographical positions:

- (35) 63° 30'.82 N 023° 36'.06 W
(36) 63° 33'.37 N 023° 38'.00 W

Description of the two-way route

A two-way route (the outer route) west of the Reykjanes Peninsula, located off the southwest corner of the proposed western Area to be Avoided, is established by lines connecting the following geographical positions:

- (34) 63° 34'.30 N 023° 31'.23 W
(36) 63° 33'.37 N 023° 38'.00 W
(28) 63° 42'.00 N 023° 37'.00 W
(37) 63° 41'.00 N 023° 43'.69 W

Notes:

- 1.1 All ships of over 5,000 gross tonnage in size and all ships carrying dangerous or noxious cargoes in bulk or cargo tanks should navigate the outer route, southwest of the Reykjanes Peninsula, unless they are permitted to navigate the inner route, Hullid Passage, according to the provisions of paragraphs 1.2 and 1.4 below.

- 1.2 Ships of up to 5,000 gross tonnage not carrying dangerous or noxious cargoes in bulk or cargo tanks may transit the inner route.
- 1.3 Ships of up to 20,000 gross tonnage may transit the inner route provided that:
 - .1 the ship does not carry any dangerous or noxious cargoes in bulk or cargo tanks; and
 - .2 the master of the ship has attended a course held by Icelandic authorities and achieved transit permit. In order to be eligible to attend the course, the master must have been involved in six passages without any incidents and/or remarks to Faxaflói Bay ports as master or chief mate in the preceding 18 months. The master's transit permit expires if the master has not navigated a ship to Faxaflói Bay port in 24 months.
- 1.4 Tankers with a cargo capacity of up to 5,000 gross tonnage may navigate the inner route carrying gas cargoes or petroleum products with a maximum kinematic viscosity of 11.0 cSt at 40°C¹. The master shall fulfil the conditions as provided for in paragraph 1.3.2 above.
- 2 Mariners should be aware that fishing vessels may be encountered in the area and should navigate accordingly.
- 3 Exceptions applying to the routing measures are in accordance with SOLAS chapter V, regulation 1.1. Exempt are warships, naval auxiliaries and other ships owner or operated by a contracting Government and used only on Government non-commercial service. The exceptions do not apply to the TSS.

AMENDMENTS TO EXISTING MANDATORY ROUTE FOR TANKERS FROM NORTH HINDER TO THE GERMAN BIGHT AND VICE VERSA

Replace the existing text under "Application and use of the route" by the following new text:

Application and use of the route

The route is mandatory for use by the following classes of ships:

- (a) tankers of 10,000 tons gross tonnage and upwards, carrying oil as defined under Annex I to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78);
- (b) chemical tankers of 5,000 tons gross tonnage and upwards, carrying noxious liquid substances in bulk assessed or provisionally assessed as Category X or Y of Annex II to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78);

¹ According to ISO 8217:2005.

- (c) chemical tankers and NLS tankers of 10,000 tons gross tonnage and upwards, carrying Noxious Liquid Substances in bulk assessed or provisionally assessed as Category Z of Annex II to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78); and
- (d) ships of 10,000 tons gross tonnage and upwards, carrying liquefied gasses in bulk.

These ships shall avoid the sea area between the mandatory route and the adjacent Frisian Islands' coast, except when joining or leaving the route at the nearest point of the route to the port of departure or destination which permits a safe passage to or from that port.

The classes of ships referred to above shall use the mandatory route or part of it:

- (i) when sailing from North Hinder to the Baltic or to North Sea ports of Norway, Sweden, Denmark, Germany or the Netherlands north of latitude 53°N and vice versa;
- (ii) when sailing between North Sea ports of the Netherlands north and/or Germany, except in cases of adjacent port areas;
- (iii) when sailing between United Kingdom or Continental North Sea ports south of latitude 53°N and Scandinavian and Baltic ports; and
- (iv) when sailing between North Hinder, United Kingdom or Continental ports south of latitude 53°N and offshore and offshore-based loading facilities in the North Sea area. However this provision does not apply to ships sailing between ports on the east coast of the United Kingdom, including Orkney and Shetland Islands.

Ships which, because of their draft, cannot safely navigate the mandatory route – in particular the southern part of it (the routeing measures a, b and c above) – are exempted from the requirements to use the southern part of the mandatory route and are strongly recommended to use the western route of the routeing system “Off Friesland” or part of it, as appropriate, instead.

This alternative western route is formed by the following routeing measures:

- .1 Deep-water route from North Hinder to Indefatigable Bank via DR 1 lightbuoy;
- .2 TSS “Off Botney Ground”; and
- .3 Deep-water route from TSS “Off Botney Ground” to the Precautionary Area “Friesland Junction”.

Shipmasters should enter this deviation in the ships' log.

**AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEMES “OFF TEXEL”,
“OFF VLIELAND, VLIELAND NORTH AND VLIELAND JUNCTION”,
“TERSCHELLING-GERMAN BIGHT” AND “GERMAN BIGHT WESTERN APPROACH”**

Replace in each of the above-mentioned routing systems the existing “Special Provisions” text by the following new text:

Note:

The following classes of ships are referred to the provisions being part of the description of the “Mandatory route for tankers from North Hinder to the German Bight and vice versa”:

- (a) tankers of 10,000 tons gross tonnage and upwards, carrying oil as defined under Annex I to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78);
- (b) chemical tankers of 5,000 tons gross tonnage and upwards, carrying Noxious Liquid Substances in bulk assessed or provisionally assessed as Category X or Y of Annex II to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78);
- (c) chemical tankers and NLS tankers of 10,000 tons gross tonnage and upwards, carrying Noxious Liquid Substances in bulk assessed or provisionally assessed as Category Z of Annex II to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78);
- (d) ships of 10,000 tons gross tonnage and upwards, carrying liquefied gases in bulk.

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEMES “IN THE APPROACHES TO HOOK OF HOLLAND AND AT NORTH HINDER”

The following traffic separation schemes to be amended as presented below:

(Reference chart: Netherlands 1630 (INT 1416) (Edition 1, dated February 2005).

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84.)

1 Maas North traffic separation scheme

- (a) A separation zone is bounded by a line connecting the following geographical positions:

- | | | | |
|------------------|---------------|------------------|---------------|
| (1) 52° 15'.00 N | 003° 59'.38 E | (2) 52° 07'.18 N | 003° 56'.56 E |
| (3) 52° 15'.00 N | 003° 56'.42 E | (5) 52° 07'.27 N | 003° 54'.34 E |
| (4) 52° 10'.26 N | 003° 55'.54 E | | |

- (b) A traffic lane for northbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(7) 52° 07'.04 N 004° 00'.00 E (6) 52° 15'.00 N 004° 02'.80 E

- (c) A traffic lane for southbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(8) 52° 15'.00 N 003° 53'.39 E (9) 52° 10'.26 N 003° 52'.49 E
(10) 52° 07'.40 N 003° 51'.36 E

3 Maas West Inner traffic separation scheme

- (a) A separation zone to the north of the Eurochannel is outward bounded by a line connecting the following geographical positions:

(21) 52° 02'.36 N 003° 32'.20 E (22) 52° 02'.74 N 003° 41'.25 E
(23) 52° 01'.07 N 003° 41'.47 E (24) 52° 00'.20 N 003° 30'.73 E

and inward bounded by a line connecting the following geographical positions:

(32) 52° 02'.17 N 003° 37'.83 E (33) 52° 02'.00 N 003° 33'.98 E
(34) 52° 00'.90 N 003° 33'.23 E (35) 52° 01'.26 N 003° 37'.63 E

- (b) A separation zone to the south of the Eurochannel is bounded by a line connecting the following geographical positions:

(25) 52° 00'.42 N 003° 41'.55 E (26) 51° 59'.48 N 003° 30'.24 E
(27) 51° 58'.03 N 003° 29'.26 E (28) 51° 59'.72 N 003° 41'.65 E

- (c) A traffic lane for westbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(19) 52° 04'.84 N 003° 40'.97 E (20) 52° 04'.73 N 003° 33'.81 E

- (d) A traffic lane for eastbound traffic is established between the separation zone in paragraph (b) above and a line connecting the following geographical positions:

(29) 51° 54'.59 N 003° 26'.92 E (30) 51° 57'.10 N 003° 40'.05 E
(31) 51° 57'.21 N 003° 41'.98 E

Note: The inside of the area in the separation zone to the north of the Eurochannel, bounded by a line connection geographical positions (32), (33), (34) and (35) above, is designated as an anchorage area.

4 Inshore traffic zone

The area between the landward boundary of the Maas West Inner traffic separation scheme and the coast, which lies between a line connecting positions (29) 51° 54'.59 N 003° 26'.92 E, (59) 51° 51'.73 N 003° 24'.96 E and (60) 51° 43'.73 N 003° 42'.25 E and a line connecting geographical positions (29) above, (30) 51° 57'.10 N 003° 40'.05 E and (56) 51° 58'.27 N 004° 00'.62 E is designated as an inshore traffic zone.

5 Maas Centre precautionary area

- (a) A precautionary area is established off the entrance to the Rotterdam Waterway. The area is bounded by a line connecting geographical positions: (58) North Mole Head Light, (57) South Mole Head Light, thence along the southern sea wall to geographical position (56) 51° 58'.27 N 004° 00'.62 E, thence to geographical positions (31), (19), (11), (7) and (58) North Mole head Light.
- (b) The focal point of the precautionary area is located at the following geographical position: (79) 52° 01'.68 N 03° 53'.11 E.

Note: An area to be avoided “At Maas Centre” is established around position (79) above. It consists of a circle of 0.6 mile radius.

(See also Caution 1 and the description of the area to be avoided in part D I/5.6)

6 Maas Junction precautionary area

A precautionary area is established at the junction between the Maas West Inner and Maas West Outer traffic separation schemes. The precautionary area is bounded by a line connecting the following geographical positions:

(20), (29), (50), (36) and (20) above.

7 Maas West Outer traffic separation scheme

- (a) A separation zone to the north of the Eurochannel is outward bounded by a line connecting the following geographical positions:

(38) 52° 01'.40 N	003° 09'.19 E	(39) 52° 01'.99 N	003° 23'.17 E
(40) 51° 59'.42 N	003° 21'.43 E	(41) 51° 58'.46 N	003° 09'.83 E

and inward bounded by a line connecting the following geographical positions:

(42) 51° 59'.68 N	003° 21'.06 E	(43) 52° 01'.59 N	003° 22'.35 E
(44) 52° 01'.37 N	003° 16'.88 E	(45) 51° 59'.37 N	003° 17'.33 E

- (b) A separation zone to the south of the Eurochannel is outward bounded by a line connecting the following geographical positions:

(46) 51° 58'.71 N 003° 20'.95 E (47) 51° 57'.81 N 003° 09'.99 E
(48) 51° 55'.47 N 003° 10'.51 E (49) 51° 56'.71 N 003° 19'.59 E

and inward bounded by a line connecting the following geographical positions:

(52) 51° 56'.96 N 003° 19'.25 E (53) 51° 58'.36 N 003° 20'.19 E
(54) 51° 58'.06 N 003° 16'.64 E (55) 51° 56'.60 N 003° 16'.54 E

- (c) A traffic lane for westbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(36) 52° 04'.61 N 003° 24'.96 E (37) 52° 04'.37 N 003° 08'.52 E

- (d) A traffic lane for eastbound traffic is established between the separation zone in paragraph (b) above and a line connecting the following geographical positions:

(50) 51° 52'.66 N 003° 16'.84 E (51) 51° 51'.62 N 003° 11'.37 E

Note: The inside of the area in the separation zone to the north of the Eurochannel, bounded by a line connecting geographical positions (42), (43), (44) and (45) above, and the inside of the area in the separation zone to the south of the Eurochannel, bounded by a line connecting geographical positions (52), (53), (54) and (55) above, are designated as anchorage areas.

8 North Hinder South traffic separation scheme

- (a) A separation zone is bounded by a line connecting the following geographical positions:

(69) 51° 31'.07 N 002° 07'.90 E (70) 51° 29'.84 N 002° 10'.62 E
(71) 51° 47'.88 N 002° 35'.27 E (72) 51° 48'.53 N 002° 34'.04 E

- (b) A traffic lane for north-eastbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(73) 51° 26'.97 N 002° 16'.95 E (74) 51° 36'.20 N 002° 27'.25 E
(75) 51° 45'.42 N 002° 39'.92 E

- (c) A traffic lane for south-westbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(76) 51° 33'.66 N 002° 02'.17 E (77) 51° 51'.35 N 002° 28'.70 E

The delineations of North Hinder North traffic separation scheme and North Hinder Junction precautionary area remain the same.

The geographical positions for the description of the scheme are revised for WGS-84 chart Datum.

9 North Hinder North traffic separation scheme

- (a) A separation zone is bounded by a line connecting the following geographical positions:

(61) 52° 07'.53 N	003° 02'.64 E	(62) 52° 09'.78 N	003° 05'.84 E
(63) 52° 11'.29 N	003° 03'.03 E	(64) 52° 09'.03 N	002° 59'.83 E

- (b) A traffic lane for south-westbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(65) 52° 13'.26 N	002° 59'.34 E	(66) 52° 10'.99 N	002° 56'.14 E
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- (c) A traffic lane for north-eastbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:

(67) 52° 05'.54 N	003° 06'.31 E	(68) 52° 07'.81 N	003° 09'.51 E
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10 North Hinder Junction precautionary area

- (a) A precautionary area is established off North Hinder. The area is bounded by a line connecting the following geographical positions:

(75) 51° 45'.42 N	002° 39'.92 E	(51) 51° 51'.62 N	003° 11'.37 E
(37) 52° 04'.37 N	003° 08'.52 E	(66) 52° 10'.99 N	002° 56'.14 E
(77) 51° 51'.35 N	002° 28'.70 E	and (75) above.	

- (b) The focal point of the precautionary area is located at the following geographical position:

(78) 52° 00'.09 N	002° 51'.09 E
-------------------	---------------

This position coincides with the location of North Hinder buoy.

A circular area to be avoided with a diameter of one mile is established around position (78). (See also caution 5 and the description of the area to be avoided in Part D I/5.6.)

Note:**Cautions**

Amend as follows: (amended parts are underlined)

- 1 (In the “Maas Centre” precautionary area, near the area to be avoided)
Ships should proceed with caution in the area where the traffic lanes merge. Any ship which is not compelled to adhere to the deep-water route should, if practicable, not enter the circular area to be avoided “At Maas Centre”. All ships should keep this circular area on their port side unless the available water depth, the density of traffic, the pilotage or the weather conditions warrant otherwise.

- 2 (Maas Junction precautionary area between Maas West Outer traffic separation scheme and Maas West Inner traffic separation scheme). Mariners are warned that in this precautionary area ships on routes to and from TSS “Off Texel”, the river Scheldt and Europoort are merging or crossing.
- 3 (no change)
- 4 (no change)
- 5 (In the “North Hinder Junction” precautionary area, near the area to be avoided.) Ships should proceed with caution in this area where traffic lanes merge. Ships should, where practicable, not enter the area to be avoided “At North Hinder Junction Point” around North Hinder buoy. All ships should keep the circular area to be avoided on their port side unless the density of traffic, the pilotage (helicopter operations) or the weather conditions warrant otherwise.

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEME “IN THE SOUND”

(Reference charts: Danish chart No.131 (INT 1331) (14th edition February 2006)
Swedish chart No.922, 5th edition January 2007.

Note: These charts are based on World Geodetic System 1984 Datum (WGS-84.)

Description of the traffic separation scheme

- (a) A separation line connects the following geographical positions:
- | | | | | | |
|-----|--------------|---------------|-----|--------------|---------------|
| (1) | 56° 07'.30 N | 012° 31'.46 E | (3) | 55° 58'.88 N | 012° 41'.23 E |
| (2) | 56° 03'.27 N | 012° 39'.01 E | | | |
- (b) A traffic lane for northbound traffic is established between the separation line and a separation line connecting the following geographic positions:
- | | | | | | |
|-----|--------------|---------------|-----|--------------|---------------|
| (4) | 56° 08'.03 N | 012° 32'.69 E | (6) | 56° 03'.35 N | 012° 39'.97 E |
| (5) | 56° 06'.39 N | 012° 34'.74 E | (7) | 55° 59'.08 N | 012° 42'.37 E |
- (c) A traffic lane for southbound traffic is established between the separation line and a separation line connecting the following geographical positions:
- | | | | | | |
|-----|--------------|---------------|------|--------------|---------------|
| (8) | 56° 06'.58 N | 012° 30'.22 E | (10) | 56° 03'.10 N | 012° 38'.21 E |
| (9) | 56° 05'.50 N | 012° 33'.22 E | (11) | 56° 01'.66 N | 012° 37'.79 E |
- (d) In the southern part of this traffic lane the southbound traffic is divided into two lanes by a separation zone, bounded by a line connecting the following geographical positions:
- | | | | | | |
|------|--------------|---------------|------|--------------|---------------|
| (12) | 56° 00'.80 N | 012° 38'.20 E | (14) | 56° 00'.80 N | 012° 39'.35 E |
| (13) | 56° 01'.66 N | 012° 38'.82 E | | | |

- (e) A traffic lane eastern most for southbound traffic is established between the separation line and a separation line connecting the following geographic positions:

(15)	56° 00'.80 N	012° 39'.35 E	(17)	55° 58'.82 N	012° 39'.98 E
(16)	55° 59'.98 N	012° 39'.87 E			

Inshore traffic zones

Western inshore traffic zone

The area between the western landward boundary of the traffic separation scheme and the Danish coast and between a line drawn in the direction 224° from position (8) to position (20) and a line drawn in the direction of 257° from position (11) to position (21) is designated as an inshore traffic zone.

(8)	56° 06'.58 N	012° 30'.22 E
(20)	56° 05'.64 N	012° 28'.64 E
(11)	56° 01'.66 N	012° 37'.79 E
(21)	56° 01'.47 N	012° 36'.37 E

Eastern inshore traffic zone

The area between the eastern landward boundary of the traffic separation scheme and the Swedish coast and between a line drawn in a direction 049° from position (4) to position (18) and a line drawn in a direction of 060° from position (6) to position (19) is designated as an inshore traffic zone.

(4)	56° 08'.03 N	012° 32'.69 E
(18)	56° 08'.72 N	012° 34'.09 E
(6)	56° 03'.35 N	012° 39'.97 E
(19)	56° 03'.66 N	012° 40'.82 E

Note:

Cross-channel traffic

All precautions, including if necessary a reduction of speed, should be taken in the area between Helsingborg and Helsingør, which is widely used by local cross-channel ferry traffic.

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEME “IN THE APPROACHES TO CHEDABUCTO BAY”

(Reference charts: Canadian Hydrographic Service 4013 (2002 edition; 4307, 2002 edition; 4335, 1998 edition).

Note: These charts are based on North American 1983 Geodetic Datum, which is equivalent to WGS-84.)

Description of the traffic separation scheme

The traffic separation scheme “In the approaches to Chedabucto Bay” consists of three parts:

Part I

(a) A separation zone is bounded by a line connecting the following geographical positions:

- | | |
|--------------------------------|--------------------------------|
| (1) 45° 24'.00 N 060° 36'.70 W | (3) 45° 23'.70 N 060° 28'.20 W |
| (2) 45° 24'.20 N 060° 27'.17 W | (4) 45° 23'.82 N 060° 36'.48 W |

(b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | |
|--------------------------------|--------------------------------|
| (5) 45° 26'.00 N 060° 23'.20 W | (6) 45° 25'.43 N 060° 41'.70 W |
|--------------------------------|--------------------------------|

(c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | |
|--------------------------------|---------------------------------|
| (7) 45° 22'.30 N 060° 34'.50 W | (8) 45° 22'.15 N, 060° 31'.60 W |
|--------------------------------|---------------------------------|

Part II

(a) A separation zone is bounded by a line connecting the following geographical positions:

- | | |
|---------------------------------|---------------------------------|
| (9) 45° 22'.57 N 060° 40'.00 W | (11) 45° 19'.30 N 060° 37'.80 W |
| (10) 45° 19'.88 N 060° 36'.50 W | (12) 45° 22'.68 N 060° 42'.17 W |

(b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | |
|---------------------------------|---------------------------------|
| (13) 45° 21'.35 N 060° 33'.30 W | (14) 45° 22'.30 N 060° 34'.50 W |
|---------------------------------|---------------------------------|

(c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | |
|---------------------------------|---------------------------------|
| (15) 45° 22'.90 N 060° 46'.50 W | (17) 45° 14'.47 N 060° 48'.38 W |
| (16) 45° 21'.28 N 060° 44'.40 W | |

Part III

(a) A separation zone is bounded by a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|---------------|------|--------------|---------------|
| (18) | 45° 24'.00 N | 060° 41'.70 W | (22) | 45° 28'.45 N | 061° 10'.33 W |
| (19) | 45° 23'.82 N | 060° 41'.50 W | (23) | 45° 24'.92 N | 061° 06'.07 W |
| (20) | 45° 23'.82 N | 061° 05'.00 W | (24) | 45° 24'.00 N | 061° 02'.65 W |
| (21) | 45° 28'.36 N | 061° 10'.46 W | | | |

(b) A traffic lane for west inbound traffic is established between the separation line and a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|---------------|------|--------------|---------------|
| (25) | 45° 25'.43 N | 060° 41'.70 W | (27) | 45° 25'.63 N | 061° 06'.29 W |
| (26) | 45° 24'.77 N | 061° 03'.26 W | (28) | 45° 28'.70 N | 061° 09'.94 W |

(c) A traffic lane for east outbound traffic is established between the separation line and a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|---------------|------|--------------|---------------|
| (29) | 45° 22'.90 N | 060° 46'.50 W | (31) | 45° 28'.12 N | 061° 10'.83 W |
| (30) | 45° 22'.89 N | 061° 04'.52 W | | | |

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEME “IN THE STRAIT OF DOVER AND ADJACENT WATERS”

(Reference Chart: British Admiralty 2449, 2450, 2451 June 2007.

Note: These charts are based on World Geodetic System 1984 Datum (WGS-84).)

Description of the traffic separation scheme

(a) A separation zone is bounded by lines connecting the following geographical positions:

- | | | |
|-----|--------------|---------------|
| (1) | 51° 25'.31 N | 002° 04'.03 E |
| (2) | 51° 26'.77 N | 002° 01'.48 E |
| (3) | 51° 31'.07 N | 002° 07'.90 E |
| (4) | 51° 29'.84 N | 002° 10'.62 E |

(b) A separation line connects the following geographical positions:

- | | | |
|-----|--------------|---------------|
| (5) | 51° 26'.97 N | 002° 16'.95 E |
| (6) | 51° 22'.83 N | 002° 12'.29 E |

(c) A separation zone is bounded by lines connecting the following geographical positions:

(7)	51° 22'.03 N	001° 58'.39 E
(8)	51° 22'.49 N	001° 57'.61 E
(9)	51° 16'.53 N	001° 52'.29 E

(d) A precautionary area with recommended directions of traffic flow is established connecting geographical positions (1), (2), (8) and (7) above.

(e) A separation line connects the following geographical positions:

(10)	51° 16'.53 N	001° 52'.29 E
(11)	51° 06'.13 N	001° 38'.10 E

(f) A separation zone is bounded by lines connecting the following geographical positions:

(12)	51° 05'.77 N	001° 38'.65 E
(13)	51° 06'.49 N	001° 37'.55 E
(14)	50° 57'.59 N	001° 23'.00 E
(15)	50° 51'.14 N	001° 17'.20 E
(16)	50° 33'.37 N	000° 36'.50 E
(17)	50° 26'.91 N	000° 01'.09 W
(18)	50° 22'.12 N	000° 00'.91 E
(19)	50° 32'.71 N	000° 57'.73 E
(20)	50° 42'.87 N	001° 18'.30 E
(21)	50° 56'.87 N	001° 24'.03 E

(g) A traffic lane for south-westbound traffic is established between the separation zones/lines described in paragraphs (a), (c), (e) and (f) above and the following separation line/zone:

a separation line connection the following geographical positions:

(22)	51° 33'.66 N	002° 02'.17 E
(23)	51° 27'.35 N	001° 52'.76 E
(24)	51° 14'.13 N	001° 43'.99 E
(25)	51° 06'.93 N	001° 30'.90 E
(26)	50° 52'.29 N	001° 02'.65 E

a separation zone bounded by lines connecting the following geographical positions:

(27)	50° 52'.47 N	001° 02'.45 E
(28)	50° 39'.37 N	000° 32'.50 E
(29)	50° 34'.64 N	000° 04'.29 W
(30)	50° 32'.71 N	000° 03'.49 W
(31)	50° 38'.91 N	000° 32'.70 E
(32)	50° 52'.09 N	001° 02'.85 E

- (h) A traffic lane for north-eastbound traffic is established between the separation zones/lines described in paragraphs (a), (c), (e) and (f) above and the following separation line/zone:

a separation zone is bounded by lines connecting the following geographical positions:

(33)	50° 16'.34 N	000° 03'.31 E
(34)	50° 14'.49 N	000° 04'.11 E
(35)	50° 26'.37 N	001° 00'.20 E
(36)	50° 39'.29 N	001° 22'.63 E
(37)	50° 39'.69 N	001° 22'.20 E
(38)	50° 26'.94 N	000° 59'.90 E

a separation line connects the following geographical positions:

(39)	50° 39'.49 N	001° 22'.40 E
(40)	50° 44'.54 N	001° 26'.90 E
(41)	50° 53'.64 N	001° 30'.70 E
(42)	51° 04'.34 N	001° 45'.89 E

a separation zone is bounded by lines connecting the following geographical positions:

(43)	51° 04'.34 N	001° 45'.89 E
(44)	51° 06'.44 N	001° 48'.89 E
(45)	51° 11'.23 N	002° 04'.09 E
(46)	51° 09'.84 N	002° 03'.12 E

an uncharted line representing the junction of the scheme with the adjacent scheme “At West Hinder” and joining the following geographical positions:

(47)	51° 11'.23 N	002° 04'.09 E
(6)	51° 22'.83 N	002° 12'.29 E

A separation zone is established within this lane as described in (i) below.

- (i) A separation zone is bounded by the lines connecting the following geographical positions:

(48)	51° 18'.43 N	002° 04'.69 E
(49)	51° 16'.03 N	002° 04'.19 E
(50)	51° 13'.71 N	002° 00'.99 E
(51)	51° 09'.35 N	001° 47'.10 E
(52)	51° 09'.75 N	001° 45'.61 E
(53)	51° 12'.35 N	001° 51'.03 E
(54)	51° 15'.05 N	001° 54'.40 E

- (j) A deep-water route forming part of the north-eastbound traffic lane between the separation zone described in (i) above and the separation zone/line described in paragraphs (c) and (e) above has been established between a line connecting the following geographical positions:

- (i) 51° 09'.75 N 001° 45'.61 E
- (ii) 51° 10'.26 N 001° 43'.74 E

and

- (iii) 51° 22'.03 N 001° 58'.39 E
- (iv) 51° 18'.43 N 002° 04'.69 E

Note:

An area to be avoided around the Foxtrot 3 station (51° 24'.15 N; 002° 00'.38 E) is described in part D, section I.

An uncharted line representing the junction of the scheme with the adjacent scheme “In the Approaches to Hook of Holland and At North Hinder” and joining the following geographical positions:

- (5) 51° 26'.97 N 002° 16'.95 E
- (4) 51° 29'.84 N 002° 10'.62 E
- (3) 51° 31'.07 N 002° 07'.90 E
- (22) 51° 33'.66 N 002° 02'.17 E

Inshore traffic zones

The area between the outer boundary of the traffic separation scheme and the English coast which lies between a line:

- (v) 51° 08'.42 N 001° 22'.24 E
- (vi) 51° 02'.53 N 001° 22'.24 E

and a line between:

- (vii) 50° 34'.64 N 000° 04'.29 W
- (viii) 50° 49'.60 N 000° 16'.86 W

is designated as an inshore traffic zone.

The area between the outer boundary of the traffic separation scheme and the French coast which lies between:

- (ix) 50° 53'.64 N 001° 30'.70 E
- (x) 50° 52'.10 N 001° 34'.96 E

and a line between:

- (xi) 50° 30'.09 N 001° 06'.66 E
- (xii) 50° 30'.09 N 001° 34'.59 E

is designated as an inshore traffic zone.

Warnings

- 1 A deep-water route forming part of the north-eastbound traffic lane is established to the north-west of the Sandettie Bank, and masters considering the use of this route should take into account the proximity of traffic using the south-westbound lane.
- 2 The main traffic lane for north-eastbound traffic lies to the south-east of the Sandettie Bank and shall be followed by all such ships as can safely navigate therein having regard to their draught.
- 3 In the area of the deep-water route east of the separation line, ships are recommended to avoid overtaking.

Note:

It is important that ships passing through the Dover Strait listen to the appropriate VHF broadcasts by the Channel Navigation Information Service which provide information concerning traffic, navigation and visibility conditions in the Strait.

ANNEX 25

ROUTEING MEASURES OTHER THAN TRAFFIC SEPARATION SCHEMES

RECOMMENDED TRACKS, WHICH ARE MANDATORY AS A CONDITION OF PORT ENTRY, THROUGH THE GALAPAGOS AREA TO BE AVOIDED TO ENTER THE PARTICULARLY SENSITIVE SEA AREA (PSSA)

(Reference charts: I.O.A. 2, latest edition 1992 and I.O.A. 20 (second edition, 1992)

Note: These charts are based on World Geodetic System 1984 Datum (WGS-84).)

All ships and barges carrying cargoes of oil or potentially hazardous material entering and departing any port in the Galapagos and all ship 500 gross tonnage and above entering and departing any port in the Galapagos shall use the following routes:

1. On the eastern side of the Area to be Avoided, westbound ships shall follow the route established by a recommended track between the following two geographical positions:

(1) 01° 05'.14 S	087° 54'.73 W
(2) 01° 05'.14 S	088° 41'.32 W

2. On the eastern side of the Area to be Avoided, eastbound ships shall follow the route established by a recommended track between the following two geographical positions:

(3) 01° 10'.16 S	087° 57'.71 W
(4) 01° 10'.16 S	088° 44'.26 W

3. On the western side of the Area to be Avoided, westbound ships shall follow the route established by a recommended track between the following two geographical positions:

(5) 01° 21'.08 S	092° 43'.73 W
(6) 01° 14'.47 S	092° 06'.35 W

4. On the western side of the Area to be Avoided, eastbound ships shall follow the route established by a recommended track between the following two geographical positions:

(7) 01° 26'.19 S	092° 43'.83 W
(8) 01° 18'.94 S	092° 02'.81 W

ESTABLISHMENT OF AN AREA TO BE AVOIDED AROUND OIL RIGS OFF THE BRAZILIAN COAST – CAMPOS BASIN

(Reference chart: Brazilian Hydrographic office, 23000 (First edition, October 2003).)

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84)).

Description of the area to be avoided

In order to avoid risks of collision, pollution and environmental damage in the Area to be Avoided with a high concentration of oil rigs, production systems and FPSOs, all ships, except

those involved in support activities to oil and gas production and prospecting, should avoid the following area bounded by a line connecting the following geographical positions:

(1)	23° 02'.57 S	041° 03'.27 W
(2)	22° 41'.90 S	040° 56'.40 W
(3)	22° 07'.40 S	040° 22'.57 W
(4)	21° 35'.50 S	039° 34'.50 W
(5)	21° 54'.57 S	039° 13'.43 W
(6)	22° 57'.23 S	040° 14'.30 W

Notes:

- 1 Oil and gas production rigs display night signalling lights, comprising a fixed red light at the top and a white rhythmical light, indicative letter “U” (. . -) in Morse code – Mo(U)B. Non-authorized navigation inside safety zones around oil rigs is prohibited.
- 2 Transit of supply vessels between the harbour of the town of Macaé and the area of Oil Drilling and Production Rigs (area to be avoided): caution is advised in navigation when transiting the area of considerable volume of maritime traffic that crosses routes.

AMENDMENTS TO THE SIX EXISTING RECOMMENDED AREAS TO BE AVOIDED “IN THE REGION OF THE NORTH-WEST HAWAIIAN ISLANDS” (THE PAPAĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT, PARTICULARLY SENSITIVE SEA AREA (PSSA)*)

(Reference chart: United States 19016 (2007 edition; 19019, 2007 edition; 19022, 2007 edition).

Note: These charts are based on World Geodetic System 1984 Datum (WGS-84) and astronomic datum¹.)

Description of the Areas to be Avoided

Given the magnitude of obstacles that make navigation in these areas hazardous, and in order to increase maritime safety, protection of the environment, preservation of cultural resources and areas of cultural importance significant to Native Hawaiians, and facilitate the ability to respond to developing maritime emergencies in the Papahānaumokuākea Marine National Monument, all ships solely in transit should avoid the following areas:

- 1 Those areas contained within a circle of radius of 50 nautical miles centred upon the following geographical positions:

(1)	28° 25'.18 N	178° 19'.75 W (Kure Atoll)
(2)	28° 14'.20 N	177° 22'.10 W (Midway Atoll)
(3)	27° 50'.62 N	175° 50'.53 W (Pearl and Hermes Atoll)
(4)	26° 03'.82 N	173° 58'.00 W (Lisianski Island)
(5)	25° 46'.18 N	171° 43'.95 W (Laysan Island)

* MEPC 57 in March 2008 is expected to take the final decision on designation of this PSSA.

¹ The charts are available in paper, raster, or ENC form and may be found at <http://chartmaker.ncd.noaa.gov/NSD/coastpilot.htm>. Mariners are also urged to consult the latest edition of the United States Coast Pilot No.7, available at <http://chartmaker.ncd.noaa.gov/nsd/coastpilot7.htm> and in particular Chapter 14 which pertains to Hawaii, available at http://chartmaker.ncd.noaa.gov/nsd/Cp7/CP7-39ed-Ch14_7.pdf.

- (6) 25° 25'.45 N 170° 35'.32 W (Maro Reef)
 (7) 25° 19'.50 N 170° 00'.88 W (Between Maro Reef and Raita Bank)
 (8) 25° 00'.00 N 167° 59'.92 W (Gardner Pinnacles)
 (9) 23° 45'.52 N 166° 14'.62 W (French Frigate Shoals)
 (10) 23° 34'.60 N 164° 42'.02 W (Necker Island)
 (11) 23° 03'.38 N 161° 55'.32 W (Nihoa Island)

2 The areas contained between the following geographical positions:

		Begin Co-ordinates		End Co-ordinates	
		Latitude	Longitude	Latitude	Longitude
Area 1	Lisianski Island (N) ---> Laysan Island	26° 53'.22 N	173° 49'.64 W	26° 35'.58 N	171° 35'.60 W
	Lisianski Island (S) ---> Laysan Island	25° 14'.42 N	174° 06'.36 W	24° 57'.63 N	171° 57'.07 W
Area 2	Gardner Pinnacles (N) ---> French Frigate Shoals	25° 38'.90 N	167° 25'.31 W	24° 24'.80 N	165° 40'.89 W
	Gardner Pinnacles (S) ---> French Frigate Shoals	24° 14'.27 N	168° 22'.13 W	23° 05'.84 N	166° 47'.81 W

AMENDMENTS TO THE EXISTING DEEP-WATER ROUTE LEADING TO EUROPOORT

The Deep-water route leading to Europoort is not amended.

The geographical positions for the description of the route are revised for WGS-84 chart datum.

(Reference chart: Netherlands 1630 (INT 1416) (Edition 1, dated February 2005).

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84.)

Description of the deep-water route

The deep-water route is bounded by a line connecting the following geographical positions:

- (i) 52° 00'.68 N 003° 56'.94 E
 (ii) 52° 00'.99 N 003° 57'.12 E
 (iii) 52° 02'.03 N 003° 54'.24 E
 (iv) 51° 58'.46 N 003° 09'.83 E (position (41) of the Maas West Outer traffic separation scheme)
 (v) 51° 59'.88 N 003° 09'.51 E
 (vi) 52° 00'.74 N 003° 02'.08 E
 (vii) 52° 00'.56 N 002° 59'.28 E
 (viii) 51° 57'.13 N 002° 54'.43 E
 (ix) 51° 57'.61 N 002° 59'.91 E
 (x) 51° 56'.96 N 003° 00'.06 E
 (xi) 52° 01'.26 N 003° 51'.70 E
 (xii) 52° 01'.23 N 003° 54'.22 E
 (xiii) 52° 00'.91 N 003° 56'.07 E and position (i)

Note:

Least water depths

Limiting depths in the route should be ascertained by reference to the latest large-scale navigational charts of the area, noting that the charted depth are checked and maintained by frequent surveys and dredging.

AMENDMENT TO THE EXISTING AREA TO BE AVOIDED “AT MASS CENTRE” AND “AT NORTH HINDER JUNCTION POINT”

AT MAAS CENTRE

(Reference chart: Netherlands 1630 (INT 1416) (Edition 1, dated February 2005)

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84)).

Amend the geographical position of the area to be avoided “AT MAAS CENTRE” as follows:

52° 01'.68 N 003° 53'.11 E

AT NORTH HINDER JUNCTION POINT

(Reference chart: Netherlands 1630 (INT.1416) (Edition 1, dated February 2005).

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84).)

The description of the area to be avoided “At North Hinder Junction point is not amended, but the geographical position of the centre of the circular area to be avoided is revised for chart datum WGS-84 as follows:

52° 00'.09 N 002° 51'.09 E

RECOMMENDATIONS ON NAVIGATION TO THE POLISH PORTS THROUGH THE GULF OF GDAŃSK TRAFFIC AREA

1 Use of ships routeing system

The Traffic Separation Schemes for the approaches to the ports of Gdańsk and Gdynia in the Gulf of Gdańsk have been adopted by IMO and rule 10 of the International Regulations for Preventing Collisions at Sea, 1972, as amended, applies. Subject to any factors that may adversely affect safe navigation, ships proceeding from the Baltic Sea to the ports of Gdańsk and Gdynia and vice versa are strongly recommended to use the traffic separation schemes in the Gulf of Gdańsk.

1.1 Ships proceeding from the Baltic Sea to Gdańsk Northern Port (Port Północny) and vice versa are strongly recommended to use the traffic separation scheme “EAST”.

1.2 Ships proceeding from the Baltic Sea to Gdańsk New Port (Nowy Port) and vice versa are strongly recommended to use the northeast part and southwest part of the traffic separation scheme “WEST”.

1.3 Ships proceeding from the Baltic Sea to Gdynia and vice versa are strongly recommended to use the northeast part and west part of the traffic separation scheme “WEST”.

1.4 Ships approaching and navigating within the precautionary area should navigate with caution and should follow the recommended direction of traffic flow.

1.5 Ships engaged on international voyages proceeding between Gdańsk New Port (Nowy Port) (port, road) and Gdynia (port, road) are required* to proceed along the 163° – 343° recommended track established between GD and NP buoys or transit along the proper one-way traffic lanes between GD, GN and NP buoys.

Ships engaged on international voyages proceeding from Gdańsk Northern Port (Port Północny) to Gdynia (port, road) or to Gdańsk New Port (Nowy Port) (port, road) are required*, after leaving pilot near the buoy PP, to proceed into north direction. After passing anchorage No.5 for tankers they are required* to alter course to 314° and steer into direction of the buoy GN established in the Precautionary Area, alter course at this buoy and proceed further along the proper one-way traffic lane.

Ships engaged on international voyages proceeding from Gdańsk New Port (Nowy Port) (port, road) or from Gdynia (port, road) to Gdańsk Northern Port (Port Północny) (port, road) are required* to proceed along the proper one-way traffic lane to the Precautionary Area established around buoy GN, thence they are required* to alter course to 134° and proceed along recommended track into direction of buoy ZS. After passing anchorage No.5 for tankers, they are required* to alter course to south and proceed into direction of the pilot embarkation position marked by the buoy PP.

2 Crossing traffic

There is a crossing traffic consisting mainly of recreational sailing vessels, fishing vessels and high-speed crafts between Polish harbours situated in the Gulf of Gdańsk. This increases the risk of collision in this area. Mariners are reminded that when risk of collision is deemed to exist the rules of the 1972 Collision Regulations fully apply and in particular the rules of part B, sections II and III, of which rules 15 and 19(d) are of specific relevance in the crossing situation.

3 Fishing and recreational sailing activities

Mariners should be aware that concentrations of recreational crafts may be encountered in the summer in the Gulf of Gdańsk between Gdynia, Sopot, Hel and Gdańsk and should navigate with caution. Fishing vessels are operating mainly from harbours situated in the Pucka Bay to fishing grounds in the Gulf of Gdańsk. Fishing vessels are reminded of the requirements of rule 10(i), and sailing vessels and all other vessels of less than 20 metres in length of the requirements of rule 10(j) of the 1972 Collision Regulations.

4 Pilotage

Under national laws pilotage is mandatory in the roads and ports.

5 Defects affecting safety

Ships having defects affecting operational safety should take appropriate measures to overcome these defects before entering the Gulf of Gdańsk.

* Under the national law of Poland.

6 Ship reporting system and navigation information service

A mandatory ship reporting system (GDANREP) is established in the southwest part of the Gulf of Gdańsk in the territorial and internal waters of Poland.

All ships navigating in the GDANREP ship reporting area are required to make use of the mandatory ship reporting system and information broadcasts made and operated by the Polish Maritime Administration through VTS “Gulf of Gdańsk”, and to keep watch on VHF as appropriate.

Vessel Traffic Service “Gulf of Gdańsk” monitors compliance with the ships routing system and mandatory ship reporting system adopted by the Organization.

7 Areas temporarily closed to navigation and fishing

Mariners are reminded that there the extensive areas temporarily closed to navigation and fishing are established in the waters of Gulf of Gdańsk.

ESTABLISHMENT OF A NEW TWO-WAY ROUTE OFF THE SOUTHWEST COAST OF ICELAND

(Reference chart: Icelandic Chart No.31 (INT 1105) Dyrhólaey – Snæfellsnes (new edition June 2004).

Note: The chart is based on World Geodetic System 1984 Datum (WGS-84).)

Description of the two-way route in the Hullid passage

The routing measures consist of a two-way route (the inner route) west of the Reykjanes Peninsula, located between the proposed eastern and western Areas to be Avoided, established by lines connecting the following geographical positions:

(18)	64° 01'.70 N	022° 58'.30 W
(19)	63° 49'.20 N	022° 47'.30 W
(20)	63° 48'.00 N	022° 48'.40 W
(21)	63° 47'.00 N	022° 47'.60 W
(22)	63° 45'.80 N	022° 44'.40 W
(23)	63° 40'.90 N	022° 40'.20 W
(26)	63° 39'.70 N	022° 46'.70 W
(27)	63° 59'.10 N	023° 03'.50 W

ESTABLISHMENT OF NEW AREAS TO BE AVOIDED OFF THE SOUTHWEST COAST OF ICELAND

(Reference chart: Icelandic Chart No.31 (INT 1105) Dyrhólaey – Snæfellsnes (new edition June 2004).

Note: The chart is based on World Geodetic System 1984 Datum (WGS-84).)

Description of areas to be avoided

(a) Off the south and southwest coast – Eastern Area

The area to be avoided is bounded by lines connecting the following geographical positions:

(25)	Dyrhólaey Light	63° 24'.13 N	019° 07'.83 W
(24)	S of Surtsey Island	63° 10'.00 N	020° 38'.00 W
(23)	S of Reykjanes Point	63° 40'.90 N	022° 40'.20 W
(22)	SW of Reykjanes Point	63° 45'.80 N	022° 44'.40 W
(21)	Húllid Passage SE part	63° 47'.00 N	022° 47'.60 W
(20)	Húllid Passage NE part	63° 48'.00 N	022° 48'.40 W
(19)	SW of Litla Sandvik	63° 49'.20 N	022° 47'.30 W
(18)	Off Sandgerdi	64° 01'.70 N	022° 58'.30 W
(8)	NW of Gardskagi Point	64° 07'.20 N	022° 47'.50 W
(9)	N of Gardskagi Point	64° 07'.20 N	022° 41'.40 W
(17)	Gardskagi Light	64° 04'.92 N	022° 41'.40 W

(b) West of Reykjanes Peninsula – Western Area

The area to be avoided is bounded by lines connecting the following geographical positions:

(26)	SE corner	63° 39'.70 N	022° 46'.70 W
(27)	N corner	63° 59'.10 N	023° 03'.50 W
(28)	W corner	63° 42'.00 N	023° 37'.00 W
(29)	SW corner	63° 32'.00 N	023° 29'.50 W

(c) Faxaflói Bay – Sydra-Hraun Bank Area

The area to be avoided is bounded by lines connecting the following geographical positions:

(1)	SW corner	64° 10'.30 N	022° 29'.00 W
(2)	SE corner	64° 10'.30 N	022° 20'.00 W
(3)	E corner	64° 12'.00 N	022° 17'.50 W
(4)	NE corner	64° 14'.20 N	022° 20'.00 W
(5)	NW corner	64° 14'.20 N	022° 29'.00 W
(6)	W corner	64° 12'.00 N	022° 31'.00 W

Notes:

1. The routing measures are applicable to all SOLAS ships of 500 gross tonnage or more. The eastern area may, however, be transited by ships as specified in paragraph 2 below.
2. Ships calling at ports located within the Eastern ATBA may navigate inside the area. Ships of less than 5,000 gross tonnage engaged on voyages between Icelandic ports and not carrying dangerous or noxious cargoes in bulk or in cargo tanks may transit the area south of latitude 63° 45' N.

AMENDMENTS TO THE RECOMMENDATION ON NAVIGATION THROUGH THE ENTRANCES TO THE BALTIC SEA

Route – T

1. When passing through the entrances to the Baltic Sea, ships should note that the maximum obtainable depth in most parts of route T is 17 metres. However, in some areas the maximum obtainable depth is to some extent permanently reduced due to sand migration.
2. The effect of sea level variations caused by a combination of tide and metrological conditions together with unknown obstructions on the sea bottom and sand migration could decrease the depth with as much as 2 metres. Bearing these facts in mind, ships should:
 - .1 not pass the area unless they have a draught, with which it is safe to navigate, taking into account draught increasing effects such as squat effect and the effect of a course alteration, etc.;
 - .2 exhibit the signal prescribed in rule 28 of the International Regulations for Preventing Collisions at Sea, 1972, as amended, in certain areas in the Storebælt (Great Belt), Hatter Rev, Vengeancegrund and in the narrow route east of Langeland, when constrained by their draught.
3. Ships with a draught of 11 metres or more should, furthermore:
 - .1 use for the passage the pilotage services locally established by the coastal States; and
 - .2 be aware that anchoring may be necessary owing to the weather and sea conditions in relation to the size and draught of the ship and the sea level and, in this respect, take special account of the information available from the pilot and from radio navigation information services in the area.
4. Ships irrespective of size or draught, carrying a shipment of irradiated nuclear fuel, plutonium and high level radioactive wastes on board ships (INF-Code materials) should:
 - .1 use for the passage the pilotage services locally established by the coastal States.
5. Shipowners and masters should consider the full potential of new and improved navigation equipment in the SOLAS chapter V, including Electronic Chart Display and Information System (ECDIS) when navigating these narrow waters.

THE SOUND

1. Loaded oil tankers with a draught of 7 metres or more, loaded chemical tankers and gas carriers, irrespective of size, and ships carrying a shipment of irradiated nuclear fuel, plutonium and high level radioactive wastes (INF-Code materials), when navigating the Sound between a line connecting Svinbådan Lighthouse and Hornbæk Harbour and a line connecting Skanör Harbour and Aflandshage (the southernmost point of Amager Island) should:

- .1 use the pilotage services established by the Governments of Denmark and Sweden;
- .2 be aware that anchoring may be necessary owing to the weather and sea conditions in relation to the size and draught of the ship and the sea level and, in this respect, take special account of the information available from the pilot and from radio navigation information services in the area.

2. Shipowners and masters should consider the full potential of new and improved navigation equipment in the SOLAS chapter V, including Electronic Chart Display and Information System (ECDIS) when navigating these narrow waters.

ESTABLISHMENT OF NEW MANDATORY NO ANCHORING AREAS ON SHARKS BANK AND LONG SHOAL

(Reference charts: Chart No.502 (edition 2, January 2006).

Note: This chart is based on World Geodetic System 1984 Datum (WGS-84).)

Description of the mandatory No Anchoring Areas

Sharks Bank

To avoid destruction of this unique, fragile and pristine coral reef ecosystem from anchoring, all ships shall avoid anchoring in the area bounded by a line connecting the following geographical positions which is designated as a mandatory no anchoring area:

(1)	13° 05' 18".6 N	059° 38' 06".1 W
(2)	13° 05' 23".6 N	059° 37' 56".7 W
(3)	13° 05' 08".6 N	059° 37' 57".1 W
(4)	13° 05' 16".0 N	059° 37' 49".3 W

Long Shoal

To avoid destruction of this unique, fragile and pristine coral reef ecosystem from anchoring, ships 25 ft and greater shall avoid anchoring in the area bounded by a line connecting the following geographical positions which is designated as a mandatory no anchoring area:

(1)	13° 07' 25".4 N	059° 38' 40".2 W
(2)	13° 07' 22".9 N	059° 38' 27".4 W
(3)	13° 07' 00".8 N	059° 38' 43".3 W
(4)	13° 07' 00".7 N	059° 38' 30".5 W

ESTABLISHMENT OF NEW RECOMMENDED SEASONAL AREA TO BE AVOIDED IN ROSEWAY BASIN, SOUTH OF NOVA SCOTIA

(Reference chart: Canadian Hydrographic Service Chart 4003 (2003 edition).

Note: This chart is based on North American 1983 Geodetic Datum, which is equivalent to WGS-84 Datum.)

Description of the area to be avoided

In order to significantly reduce the risk of ship strikes of the highly endangered North Atlantic right whale, it is recommended that ships of 300 gross tonnage and upwards solely in transit **during the period of 1 June through 31 December** should avoid the area bounded by lines connecting the following geographical positions:

(1)	43° 16'.00 N	064° 55'.00 W
(2)	42° 47'.00 N	064° 59'.00 W
(3)	42° 39'.00 N	065° 31'.00 W
(4)	42° 52'.00 N	066° 05'.00 W

AMENDMENTS TO THE EXISTING DEEP-WATER ROUTE FORMING PART OF THE NORTH-EASTBOUND TRAFFIC LANE OF THE STRAIT OF DOVER AND ADJACENT WATERS TRAFFIC SEPARATION SCHEME

(Reference chart: British Admiralty 2449 (edition 9, June 2007).

Note: This chart is based on the World Geodetic System 1984 Datum (WGS-84.)

Description of the deep-water route

The deep-water route forming part of the north-eastbound traffic lane between the separation zone described in paragraph (i) and the separation zone/line described in paragraphs (c) and (e) of the separation scheme “In the Strait of Dover and adjacent waters” has been established between a line connecting the following geographical positions:

(i)	51° 09'.75 N	001° 45'.61 E
(ii)	51° 10'.26 N	001° 43'.74 E
(iii)	51° 22'.03 N	001° 58'.39 E
(iv)	51° 18'.43 N	002° 04'.69 E

Notes:

WARNING

The main traffic lane for north-eastbound traffic lies to the south-east of the Sandettie Bank and should be followed by all such ships as can safely navigate therein having regard to their draught.

AMENDMENTS TO THE EXISTING AREA TO BE AVOIDED AROUND THE FOXTROT 3 STATION “IN THE STRAIT OF DOVER AND ADJACENT WATERS” TRAFFIC SEPARATION SCHEME

(Reference chart: British Admiralty 2449 (edition 9, June 2007).

Note: This chart is based on the World Geodetic System 1984 Datum (WGS-84.)

Description of the area to be avoided, by all ships

The Foxtrot 3 station is in an area of heavy crossing traffic with some 11,000 crossing movements per annum and has suffered damage on several occasions. Therefore, with the aim of preventing further damage, an “area to be avoided” has been established centred on the Foxtrot 3 station.

The area to be avoided, by all ships with a radius of 500 metres, is centred on the following geographical position:

Foxtrot 3 51° 24'.15 N 002° 00'.38 E

AMENDMENTS TO THE RECOMMENDATIONS ON NAVIGATION THROUGH THE ENGLISH CHANNEL AND THE DOVER STRAIT

1. Amend the existing paragraph 1.4 as follows:

1.4 “Ships leaving the traffic separation scheme “At West Hinder” and intending to proceed through the Dover Strait should, when crossing the north-eastbound traffic lane of the traffic separation scheme “In the Strait of Dover and adjacent waters” and proceeding through the precautionary area in the vicinity of the Foxtrot 3 station (51° 24'.15 N; 002° 00'.38 E), maintain a course so as to leave the Foxtrot 3 station on their port side.”

2. Amend the existing section 7 as follows:

7 “Mandatory and voluntary ship movement reporting schemes

7.1 A mandatory ship movement reporting scheme (CALDOVREP) has been jointly operated by the Governments of the United Kingdom and France in the English Channel and the Dover Strait since 1 July 1999. It is compulsory for all merchant ships of 300 gross tonnage and over to participate in the scheme.

7.2 Ships of less than 300 gross tonnage should continue to make reports under the existing voluntary MAREP scheme in circumstances where they:

- are “not under command” or at anchor in the TSS or its ITZs;
- are “restricted in their ability to manoeuvre”; or
- have defective navigational aids.

The MAREP arrangements outside the coverage area remain unchanged.”

3. Amend the existing paragraph 8.1 as follows:

8.1 “Ships having defects affecting operational safety, in addition to reporting such defects through the CALDOVREP scheme or by participating in the MAREP scheme, should take appropriate measures to overcome these defects before entering the Dover Strait.”

4. Amend the existing paragraph 9.1 as follows:

9.1 “All ships navigating in the English Channel and the Dover Strait are recommended to make use of the information broadcasts made by the information services operated by the Governments of the United Kingdom and France, and to keep watch on VHF as appropriate, as set out in the CALDOVREP and MAREP schemes.”

AMENDMENTS TO THE DEEP-WATER ROUTE “NORTH-EAST OF GEDSER”

(Reference charts: Danish chart No.197 (3rd edition, April 2006).
German chart No.163 (INT 1351) (12th edition 2006).

Note: These charts are based on World Geodetic System 1984 Datum (WGS-84.)

Description of the deep-water route

A deep-water route with a minimum depth of water below mean sea level of 16.5 metres is bounded by a line connecting the following geographical positions:

(1) 54° 27'.10 N	012° 10'.50 E	(6) 54° 46'.06 N	012° 44'.03 E
(2) 54° 27'.73 N	012° 11'.30 E	(7) 54° 35'.36 N	012° 16'.93 E
(3) 54° 31'.30 N	012° 12'.80 E	(8) 54° 31'.00 N	012° 15'.20 E
(4) 54° 36'.46 N	012° 15'.83 E	(9) 54° 27'.40 N	012° 13'.10 E
(5) 54° 46'.86 N	012° 43'.23 E	(10) 54° 26'.57 N	012° 11'.90 E

Note:

Ships, other than ships which must use the deep-water route due to their draught, are recommended to use the areas to the north and south of this route, in such manner that eastbound ships proceed on the south side of the deep-water route and westbound ships on the north side.

ANNEX 26

RESOLUTION MSC.248(83)

(adopted on 8 October 2007)

**ADOPTION OF A NEW SHIP REPORTING SYSTEM
“THE PAPAĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT”
PARTICULARLY SENSITIVE SEA AREA (PSSA)**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), in relation to the adoption of ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its fifty-third session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the new ship reporting system for “The Papahānaumokuākea Marine National Monument” Particularly Sensitive Sea Area (PSSA);
2. DECIDES that the ship reporting system for “The Papahānaumokuākea Marine National Monument” Particularly Sensitive Sea Area (PSSA) – (CORAL SHIPREP) – will enter into force at 0000 hours UTC on 1 May 2008; and
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of the Member Governments and SOLAS Contracting Governments to the 1974 SOLAS Convention.

ANNEX

SHIP REPORTING SYSTEM FOR “THE PAPA HĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT” PARTICULARLY SENSITIVE SEA AREA (PSSA) (CORAL SHIPREP)¹

A ship reporting system (CORAL SHIPREP) is established in “The Papahānaumokuākea Marine National Monument” Particularly Sensitive Sea Area (PSSA)

1 Categories of ships

1.1 Ships required to participate in the system

1.1.1 As a condition of entry to a United States port or place, all ships 300 gross tonnage or greater, and all ships in the event of a developing emergency, and that are in transit through the reporting area are required to participate in CORAL SHIPREP, except for sovereign immune vessels which are exempt under SOLAS regulation V/1.

1.2 Ships recommended to participate in the system

1.2.1 All ships 300 gross tonnage or greater, fishing vessels, and all ships in the event of a developing emergency, and that are in transit through the reporting area are recommended to participate in CORAL SHIPREP.

2 Geographical coverage of the system and the number and edition of the reference chart used for the delineation of the system

2.1 The geographical coverage of CORAL SHIPREP is depicted by the geographical positions in the appendix.

2.2 The reference charts that include the ship reporting area are United States 19016, 2007 edition, 19019, 2007 edition, and 19022, 2007 edition. These charts are based on World Geodetic System 1984 Datum (WGS-84) and astronomic datum.

3 Format, content of reports, times and geographical positions for submitting reports, authorities to whom reports should² be sent, available services

3.1 *Format*

3.1.1 The ship report should be drafted in accordance with the format shown in paragraph 2 of the appendix to resolution A.851(20).

3.2 *Content*

3.2.1 The report for a ship entering the system should contain the following information:

System identifier: CORAL SHIPREP

¹ This ship reporting system was prepared based on the in-principle approval of PSSA in question by MEPC 56 and pending the final designation of the PSSA by MEPC 57 to be held in March 2008.

² For those ships that are required to report the use of the word “should” in this annex is to be read as “shall”.

A	Name of the ship, call sign, or IMO identification number
B	Date and Time (UTC)
C or D	Position
E or F	Course and speed of ship
I	Destination
L	Intended route through the reporting area
O	Vessel draft
P	General categories of hazardous cargo on board
Q or R	Defects or deficiencies, if relevant
T	Contact information of ship's agent or owner
U	Ship size and type (e.g., length, tonnage, and type)
W	Total number of persons on board

3.2.2 The report for a ship leaving the system should contain the following information:

System identifier: CORAL SHIPREP

A	Name of the ship, call sign, or IMO identification number
B	Date and Time (UTC)
C or D	Position

3.2.3 A ship may elect, for reasons of commercial confidentiality, to communicate that section of the report which provides information on general categories of hazardous cargo by non-verbal means prior to entering the reporting area.

3.3 *Geographical positions for submitting reports*

3.3.1 Each ship should submit a full report in accordance with paragraph 3.2.1 as soon as it crosses the boundary to enter the ship reporting system.

3.3.2 Each ship should submit a report in accordance with paragraph 3.2.2 as soon as it crosses the boundary to leave the ship reporting system.

3.3.3 Further reports should be made whenever there is a change in navigation status or circumstances, particularly in relation to item Q of the reporting format.

3.4 *Authority to whom reports should be sent*

3.4.1 The shore-based Authority is the United States Coast Guard's Communication Area Master Station Pacific (CAMSPAC). For ships 300 gross tonnage and greater, an e-mail address to be used for reporting through INMARSAT-C will be provided in advance of implementation

of this system through Notices to Mariners. In the event of a developing emergency, ships are urged to call the United States Coast Guard 14th District. Vessels unable to report in through INMARSAT-C should report to nwhi.notification@noaa.gov.

4 Information to be provided to ship and procedures to be followed

4.1 The CORAL SHIPREP shore-based Authority will provide critical alerts and information to shipping about specific and urgent situations and other information that may affect safety of navigation within the IMO-adopted Areas To Be Avoided and “The Papahānaumokuākea Marine National Monument” Particularly Sensitive Sea Area, as well as remind ships about the existence of the IMO-adopted Areas To Be Avoided and necessity of navigating with extreme caution through the Particularly Sensitive Sea Area.³

4.2 Navigational warnings and emergency broadcasts will be issued as NAVTEX messages or specifically directed at GMDSS equipped vessels using INMARSAT-C.

5 Radio Communication required for the system and frequencies on which reports should be transmitted

5.1 This system will be based on INMARSAT-C and an e-mail and ships equipped with such capabilities should report through INMARSAT-C.

5.2 In the event of a developing emergency, a ship is urged to call the United States Coast Guard 14th District at 001-808-541-2500 to request a response and assistance.

5.3 For vessels unable to communicate through INMARSAT-C, reports should be made prior to, during, or after transiting through the reporting area to nwhi.notification@noaa.gov.

5.4 Commercially sensitive information will be kept confidential and should be transmitted prior to entry into the reporting system. Such information may be sent to nwhi.notification@noaa.gov.

5.5 The language used for reports to the system should be English, employing the IMO *Standard Marine Communications Phrases*, where necessary.

5.6 Communications associated with CORAL SHIPREP are, in accordance with SOLAS regulation V/11, free of charge to affected vessels.

6 Relevant rules and regulations in force in the area of the system

6.1 International actions

6.1.1 The United States has taken appropriate action to implement the international conventions to which it is party.

6.1.2 In recognition of the fragile environment in this area and potential hazards to navigation, the IMO has adopted several Areas To Be Avoided to protect the Northwestern Hawaiian Islands and has designated the area as a Particularly Sensitive Sea Areas where mariners should navigate with extreme caution.³

³ Pending the final decision of MEPC 57 on the designation of this PSSA.

6.1.3 The United States applies its laws in accordance with international law, which includes navigational rights under customary international law as reflected in the United Nations Convention on the Law of the Sea. No restrictions shall apply to or be enforced against foreign flagged vessels unless in accordance with such law.

6.2 *Domestic Actions*

6.2.1 The United States has taken considerable action to ensure maritime safety and to protect the fragile environment and cultural resources and areas of cultural importance significant to Native Hawaiians in the NWHI. This area has been the subject of a variety of protective measures, including designation of this area as the Northwestern Hawaiian Islands Marine National Monument (subsequently renamed the Papahānaumokuākea Marine National Monument) in recognition of its fragility and to protect the many species of coral, fish, birds, marine mammals, and other flora and fauna, as well as to protect historical and archaeological heritage resources, including cultural resources and areas of significant importance to Native Hawaiians.

6.2.2 Regulations in this area, *inter alia*, prohibit taking, possessing, injuring, or disturbing any resource; altering the seabed; anchoring or deserting a vessel; and possessing fishing gear unless stowed. All of these activities may be allowed by permit; however, permits cannot be issued for such things as releasing an introduced species. Activities such as discharging or depositing any material into the Monument, or discharging or depositing any material outside the Monument that subsequently injures Monument resources, except discharges incidental to vessel use, such as approved marine sanitation device effluent, cooling water, and engine exhaust are also prohibited. The United States strictly regulates entry into the Monument and, for those vessels subject to United States jurisdiction, requires the mandatory use of vessel monitoring systems on those vessels that may be allowed into the Monument for specific purposes.

7 **Shore-based facilities to support operation of the system**

7.1 The shore-based Authority is the United States Coast Guard's Communications Area Master Station Pacific (CAMSPAC). CAMSPAC provides maritime distress communication services and safety and weather broadcasts to commercial and recreational mariners, and also provides secure voice communications and record message delivery services for all United States Coast Guard cutters, aircraft, and shore units. Additionally, CAMSPAC is one of the United States Coast Guard's Pacific Area's (PACAREA) Continuity of Operations sites. CAMSPAC delivers contingency and interagency communication services for Incident Commanders by deploying a state-of-the-art transportable communications center. CAMSPAC is the Operational Commander of the United States Coast Guard's Pacific Area Communications System, consisting of communication stations in Honolulu Hawaii, Kodiak Alaska, and remote facilities in Guam. There are approximately 150 people assigned to CAMSPAC.

7.2 CORAL SHIPREP will use INMARSAT-C communications equipment. A computer server handles and sorts incoming reports and sends the return message. Incoming reports are text messages that arrive via either internet e-mail or telex. When the ship reporting system server receives a report, the server sends the ship a specific return message. Area co-ordinators will monitor and update the information to the server for inclusion in the outgoing message.

8 Alternative communication if the shore-based facilities fail

8.1 NAVTEX Broadcast Notice to Mariners may be used to notify mariners of the temporary failure of the system and can provide mariners with basic information necessary to navigate safely through this area.

8.2 For those ships reporting through INMARSAT-C, the standard protocol now used for such systems will be used to re-route incoming and outgoing communications through an alternative address and it is expected that this will minimize the system's downtime, though a short delay may occur.

9 Measures to be taken if a ship does not report

9.1.1 All means will be used to encourage and promote the full participation of the ships recommended to submit reports.

9.1.2 If reports are not submitted by those ships required to report and the ship can be positively identified, appropriate action will be taken – including interaction with the flag State – in accordance with customary international law as reflected in the 1982 United Nations Convention on the Law of the Sea.

APPENDIX

GEOGRAPHICAL CO-ORDINATES

SHIP REPORTING SYSTEM

(Reference chart: United States 19016 (2007 edition; 19019, 2007 edition; 19022, 2007 edition.)
These charts are based on World Geodetic System 1984 Datum (WGS-84) and astronomic datum.)

1 Outer Boundary

Point	LATITUDE	LONGITUDE
1	29°25'.47 N	178°16'.97 W
2	28°43'.73 N	175°13'.84 W
3	27°00'.77 N	173°25'.78 W
4	26°44'.91 N	171°28'.07 W
5	26°24'.23 N	170°20'.59 W
6	25°56'.43 N	167°32'.10 W
7	24°50'.20 N	165°58'.69 W
8	24°05'.52 N	161°56'.86 W
9	24°05'.29 N	161°56'.62 W
10	24°04'.37 N	161°51'.53 W
11	24°03'.44 N	161°46'.45 W
12	24°02'.41 N	161°41'.39 W
13	24°01'.31 N	161°36'.35 W
14	23°59'.68 N	161°31'.55 W
15	23°57'.85 N	161°26'.85 W
16	23°55'.54 N	161°22'.31 W
17	23°52'.96 N	161°17'.92 W
18	23°50'.12 N	161°13'.72 W
19	23°46'.94 N	161°10'.08 W
20	23°43'.49 N	161°06'.47 W
21	23°39'.71 N	161°03'.09 W
22	23°35'.72 N	161°00'.14 W
23	23°31'.59 N	160°57'.46 W
24	23°27'.32 N	160°55'.23 W
25	23°22'.74 N	160°53'.71 W
26	23°18'.29 N	160°52'.17 W
27	23°13'.57 N	160°51'.04 W
28	23°08'.68 N	160°50'.46 W
29	23°03'.70 N	160°50'.17 W
30	22°58'.67 N	160°50'.35 W
31	22°53'.84 N	160°51'.04 W
32	22°49'.11 N	160°52'.20 W
33	22°44'.46 N	160°53'.56 W
34	22°40'.03 N	160°55'.52 W
35	22°35'.73 N	160°57'.68 W
36	22°31'.54 N	161°00'.25 W
37	22°27'.57 N	161°03'.23 W

38	22°23'.76 N	161°06'.64 W
39	22°20'.24 N	161°10'.23 W
40	22°17'.02 N	161°14'.13 W
41	22°14'.04 N	161°18'.34 W
42	22°11'.35 N	161°22'.80 W
43	22°09'.19 N	161°27'.45 W
44	22°07'.29 N	161°32'.11 W
45	22°05'.87 N	161°36'.94 W
46	22°04'.62 N	161°41'.89 W
47	22°03'.94 N	161°47'.09 W
48	22°03'.41 N	161°52'.36 W
49	22°03'.41 N	161°57'.51 W
50	22°03'.82 N	162°02'.83 W
51	22°04'.49 N	162°08'.04 W
52	22°05'.43 N	162°13'.12 W
53	22°05'.97 N	162°16'.41 W
54	22°06'.29 N	162°16'.85 W
55	22°34'.57 N	164°47'.27 W
56	22°47'.60 N	166°38'.23 W
57	24°03'.82 N	168°27'.91 W
58	24°25'.76 N	170°45'.39 W
59	24°46'.54 N	171°53'.03 W
60	25°07'.60 N	174°28'.71 W
61	27°05'.82 N	176°35'.51 W
62	27°27'.32 N	178°38'.66 W
63	27°28'.93 N	178°43'.56 W
64	27°30'.64 N	178°48'.40 W
65	27°32'.74 N	178°52'.96 W
66	27°35'.06 N	178°57'.30 W
67	27°37'.89 N	179°01'.49 W
68	27°40'.90 N	179°05'.60 W
69	27°44'.17 N	179°09'.41 W
70	27°47'.74 N	179°12'.85 W
71	27°51'.45 N	179°16'.00 W
72	27°55'.32 N	179°18'.82 W

73	27°59'.33 N	179°21'.13 W
74	28°03'.49 N	179°23'.15 W
75	28°07'.82 N	179°24'.76 W
76	28°12'.31 N	179°26'.18 W
77	28°16'.95 N	179°27'.05 W
78	28°21'.61 N	179°27'.63 W
79	28°26'.18 N	179°27'.77 W
80	28°30'.87 N	179°27'.48 W
81	28°35'.61 N	179°26'.95 W
82	28°40'.09 N	179°25'.75 W
83	28°44'.46 N	179°24'.31 W
84	28°48'.70 N	179°22'.50 W
85	28°52'.81 N	179°20'.43 W
86	28°56'.71 N	179°17'.77 W

87	29°00'.58 N	179°14'.92 W
88	29°04'.18 N	179°11'.69 W
89	29°07'.62 N	179°08'.20 W
90	29°10'.86 N	179°04'.37 W
91	29°13'.76 N	179°00'.21 W
92	29°16'.24 N	178°55'.78 W
93	29°18'.51 N	178°51'.26 W
94	29°20'.45 N	178°46'.50 W
95	29°22'.26 N	178°41'.67 W
96	29°23'.52 N	178°36'.64 W
97	29°24'.53 N	178°31'.54 W
98	29°25'.16 N	178°26'.31 W
99	29°25'.42 N	178°20'.92 W
100	29°25'.29 N	178°16'.70 W

2 Inner Boundary Around Kure Atoll, Midway Atoll, and Pearl and Hermes Atoll

Point	LATITUDE	LONGITUDE
1	27°14'.76 N	176°29'.87 W
2	27°24'.95 N	177°33'.31 W
3	27°35'.87 N	178°29'.90 W
4	27°36'.64 N	178°33'.93 W
5	27°37'.53 N	178°37'.32 W
6	27°38'.60 N	178°40'.65 W
7	27°39'.85 N	178°43'.90 W
8	27°41'.28 N	178°47'.05 W
9	27°42'.89 N	178°50'.10 W
10	27°44'.66 N	178°53'.03 W
11	27°46'.59 N	178°55'.83 W
12	27°48'.67 N	178°58'.49 W
13	27°50'.89 N	179°01'.00 W
14	27°53'.22 N	179°03'.39 W
15	27°55'.69 N	179°05'.61 W
16	27°58'.29 N	179°07'.61 W
17	28°01'.01 N	179°09'.47 W
18	28°03'.81 N	179°11'.10 W
19	28°06'.71 N	179°12'.53 W
20	28°09'.67 N	179°13'.75 W
21	28°12'.70 N	179°14'.75 W
22	28°15'.78 N	179°15'.54 W
23	28°18'.91 N	179°16'.11 W
24	28°22'.04 N	179°16'.45 W
25	28°24'.72 N	179°16'.56 W
26	28°25'.20 N	179°16'.57 W
27	28°25'.81 N	179°16'.56 W
28	28°28'.35 N	179°16'.44 W
29	28°31'.49 N	179°16'.10 W
30	28°34'.61 N	179°15'.54 W

31	28°37'.69 N	179°14'.75 W
32	28°40'.71 N	179°13'.74 W
33	28°43'.68 N	179°12'.54 W
34	28°46'.58 N	179°11'.13 W
35	28°49'.39 N	179°09'.52 W
36	28°52'.11 N	179°07'.70 W
37	28°54'.72 N	179°05'.70 W
38	28°57'.21 N	179°03'.51 W
39	28°59'.58 N	179°01'.15 W
40	29°01'.81 N	178°58'.62 W
41	29°03'.90 N	178°55'.93 W
42	29°05'.83 N	178°53'.10 W
43	29°07'.60 N	178°50'.13 W
44	29°09'.21 N	178°47'.04 W
45	29°10'.64 N	178°43'.84 W
46	29°11'.89 N	178°40'.54 W
47	29°12'.95 N	178°37'.16 W
48	29°13'.82 N	178°33'.71 W
49	29°14'.50 N	178°30'.21 W
50	29°14'.99 N	178°26'.66 W
51	29°15'.28 N	178°23'.08 W
52	29°15'.36 N	178°19'.49 W
53	29°15'.25 N	178°15'.90 W
54	29°14'.94 N	178°12'.32 W
55	29°14'.43 N	178°08'.78 W
56	29°03'.47 N	177°12'.07 W
57	29°02'.55 N	177°07'.29 W
58	28°38'.96 N	175°35'.47 W
59	28°38'.67 N	175°34'.35 W

60	28°34'.91 N	175°19'.74 W
61	28°26'.24 N	175°10'.65 W
62	28°24'.61 N	175°08'.95 W
63	28°24'.53 N	175°09'.04 W
64	28°20'.09 N	175°04'.91 W
65	28°16'.05 N	175°01'.92 W
66	28°11'.78 N	174°59'.33 W
67	28°07'.29 N	174°57'.23 W
68	28°02'.63 N	174°55'.68 W
69	27°57'.84 N	174°54'.62 W
70	27°53'.01 N	174°54'.05 W
71	27°48'.12 N	174°54'.05 W
72	27°43'.28 N	174°54'.62 W
73	27°38'.48 N	174°55'.71 W
74	27°33'.81 N	174°57'.32 W
75	27°29'.30 N	174°59'.43 W
76	27°25'.00 N	175°02'.03 W
77	27°20'.93 N	175°05'.07 W

78	27°17'.18 N	175°08'.59 W
79	27°13'.73 N	175°12'.47 W
80	27°10'.59 N	175°16'.67 W
81	27°07'.88 N	175°21'.25 W
82	27°05'.57 N	175°26'.09 W
83	27°03'.66 N	175°31'.15 W
84	27°02'.22 N	175°36'.40 W
85	27°01'.29 N	175°41'.78 W
86	27°00'.73 N	175°47'.22 W
87	27°00'.68 N	175°52'.74 W
88	27°01'.09 N	175°58'.16 W
89	27°01'.99 N	176°03'.53 W
90	27°03'.34 N	176°08'.81 W
91	27°05'.12 N	176°13'.91 W
92	27°07'.37 N	176°18'.79 W
93	27°09'.98 N	176°23'.40 W
94	27°13'.02 N	176°27'.74 W
95	27°13'.77 N	176°28'.70 W

3 Inner Boundary Around Lisianski Island, Laysan Island, Maro Reef, and Raita Bank

Point	LATITUDE	LONGITUDE
1	26°50'.89 N	173°30'.79 W
2	26°36'.00 N	171°37'.70 W
3	26°35'.49 N	171°33'.84 W
4	26°35'.10 N	171°30'.84 W
5	26°34'.07 N	171°27'.50 W
6	26°33'.35 N	171°25'.16 W
7	26°14'.26 N	170°23'.04 W
8	26°08'.69 N	169°48'.96 W
9	26°08'.36 N	169°49'.03 W
10	26°07'.62 N	169°45'.83 W
11	26°06'.03 N	169°40'.57 W
12	26°03'.97 N	169°35'.64 W
13	26°01'.51 N	169°30'.91 W
14	25°58'.65 N	169°26'.45 W
15	25°55'.32 N	169°22'.34 W
16	25°51'.67 N	169°18'.60 W
17	25°47'.78 N	169°15'.19 W
18	25°43'.54 N	169°12'.34 W
19	25°39'.05 N	169°09'.93 W
20	25°34'.37 N	169°08'.08 W
21	25°29'.54 N	169°06'.76 W
22	25°24'.61 N	169°05'.93 W
23	25°19'.63 N	169°05'.64 W
24	25°14'.65 N	169°05'.93 W

25	25°09'.69 N	169°06'.66 W
26	25°04'.85 N	169°08'.02 W
27	25°00'.17 N	169°09'.96 W
28	24°55'.66 N	169°12'.35 W
29	24°51'.35 N	169°15'.14 W
30	24°47'.37 N	169°18'.48 W
31	24°43'.69 N	169°22'.22 W
32	24°40'.34 N	169°26'.31 W
33	24°37'.42 N	169°30'.78 W
34	24°35'.00 N	169°35'.64 W
35	24°33'.02 N	169°40'.66 W
36	24°31'.34 N	169°45'.88 W
37	24°30'.31 N	169°51'.08 W
38	24°29'.68 N	169°56'.53 W
39	24°29'.56 N	170°01'.81 W
40	24°29'.61 N	170°04'.57 W
41	24°35'.77 N	170°44'.39 W
42	24°36'.29 N	170°47'.58 W
43	24°37'.18 N	170°50'.37 W
44	24°37'.76 N	170°52'.17 W
45	24°56'.23 N	171°50'.19 W
46	25°16'.61 N	174°24'.84 W
47	25°29'.56 N	174°38'.45 W
48	25°33'.28 N	174°42'.03 W
49	25°37'.33 N	174°45'.20 W

50	25°41'.68 N	174°47'.84 W
51	25°46'.23 N	174°50'.05 W
52	25°50'.93 N	174°51'.77 W
53	25°55'.80 N	174°52'.91 W
54	26°00'.71 N	174°53'.47 W
55	26°05'.67 N	174°53'.61 W
56	26°10'.59 N	174°53'.07 W
57	26°15'.46 N	174°52'.08 W
58	26°20'.20 N	174°50'.57 W
59	26°24'.75 N	174°48'.44 W
60	26°29'.15 N	174°45'.94 W
61	26°33'.26 N	174°42'.96 W
62	26°37'.11 N	174°39'.49 W
63	26°40'.60 N	174°35'.63 W
64	26°43'.75 N	174°31'.43 W

65	26°46'.49 N	174°26'.87 W
66	26°48'.90 N	174°22'.09 W
67	26°50'.79 N	174°17'.03 W
68	26°52'.20 N	174°11'.79 W
69	26°53'.21 N	174°06'.43 W
70	26°53'.74 N	174°00'.98 W
71	26°53'.74 N	173°55'.48 W
72	26°53'.29 N	173°50'.02 W
73	26°52'.56 N	173°44'.58 W
74	26°51'.85 N	173°39'.14 W
75	26°51'.13 N	173°33'.69 W
76	26°50'.75 N	173°30'.87 W

4 Inner Boundary Around Gardner Pinnacles, French Frigate Shoals, and Necker Island

Point	LATITUDE	LONGITUDE
1	25°49'.64 N	167°52'.66 W
2	25°49'.70 N	167°52'.65 W
3	25°48'.99 N	167°48'.35 W
4	25°47'.09 N	167°36'.72 W
5	25°39'.84 N	167°26'.48 W
6	25°35'.10 N	167°19'.79 W
7	25°10'.43 N	166°45'.00 W
8	24°40'.91 N	166°03'.36 W
9	24°35'.64 N	165°34'.99 W
10	24°23'.78 N	164°31'.12 W
11	24°23'.59 N	164°31'.14 W
12	24°23'.31 N	164°29'.74 W
13	24°21'.85 N	164°24'.52 W
14	24°20'.10 N	164°19'.39 W
15	24°17'.75 N	164°14'.56 W
16	24°14'.99 N	164°09'.97 W
17	24°11'.86 N	164°05'.69 W
18	24°08'.30 N	164°01'.80 W
19	24°04'.48 N	163°58'.23 W
20	24°00'.27 N	163°55'.22 W
21	23°55'.85 N	163°52'.59 W
22	23°51'.17 N	163°50'.56 W
23	23°46'.33 N	163°48'.98 W
24	23°41'.37 N	163°47'.99 W
25	23°36'.34 N	163°47'.56 W
26	23°31'.27 N	163°47'.60 W
27	23°26'.27 N	163°48'.28 W
28	23°21'.34 N	163°49'.50 W

29	23°16'.53 N	163°51'.14 W
30	23°11'.96 N	163°53'.47 W
31	23°07'.54 N	163°56'.15 W
32	23°03'.46 N	163°59'.38 W
33	22°59'.65 N	164°03'.01 W
34	22°56'.27 N	164°07'.10 W
35	22°53'.22 N	164°11'.49 W
36	22°50'.60 N	164°16'.18 W
37	22°48'.48 N	164°21'.16 W
38	22°46'.73 N	164°26'.28 W
39	22°45'.49 N	164°31'.60 W
40	22°44'.83 N	164°37'.03 W
41	22°44'.65 N	164°42'.51 W
42	22°44'.92 N	164°47'.99 W
43	22°45'.11 N	164°49'.52 W
44	22°45'.39 N	164°51'.48 W
45	22°45'.17 N	164°51'.53 W
46	22°50'.26 N	165°34'.99 W
47	22°55'.50 N	166°19'.63 W
48	22°55'.93 N	166°23'.32 W
49	22°57'.41 N	166°36'.00 W
50	23°03'.75 N	166°45'.00 W
51	23°05'.48 N	166°47'.45 W
52	24°12'.70 N	168°22'.86 W
53	24°12'.88 N	168°22'.78 W
54	24°16'.05 N	168°27'.28 W
55	24°19'.15 N	168°31'.66 W

56	24°22'.27 N	168°35'.95 W
57	24°25'.71 N	168°39'.94 W
58	24°29'.51 N	168°43'.55 W
59	24°33'.67 N	168°46'.63 W
60	24°38'.06 N	168°49'.29 W
61	24°42'.68 N	168°51'.46 W
62	24°47'.45 N	168°53'.12 W
63	24°52'.34 N	168°54'.28 W
64	24°57'.32 N	168°54'.82 W
65	25°02'.32 N	168°54'.95 W
66	25°07'.30 N	168°54'.43 W
67	25°12'.19 N	168°53'.32 W
68	25°16'.99 N	168°51'.76 W

69	25°21'.57 N	168°49'.60 W
70	25°25'.94 N	168°46'.93 W
71	25°30'.09 N	168°43'.86 W
72	25°33'.89 N	168°40'.42 W
73	25°37'.37 N	168°36'.52 W
74	25°40'.49 N	168°32'.24 W
75	25°43'.24 N	168°27'.68 W
76	25°45'.57 N	168°22'.82 W
77	25°47'.43 N	168°17'.76 W
78	25°48'.79 N	168°12'.47 W
79	25°49'.72 N	168°07'.09 W
80	25°50'.11 N	168°01'.62 W
81	25°50'.18 N	168°00'.09 W

5 Inner Boundary Around Nihoa Island

Point	LATITUDE	LONGITUDE
1	23°52'.82 N	161°44'.54 W
2	23°52'.10 N	161°41'.20 W
3	23°51'.18 N	161°37'.92 W
4	23°50'.08 N	161°34'.71 W
5	23°48'.79 N	161°31'.58 W
6	23°47'.33 N	161°28'.55 W
7	23°45'.69 N	161°25'.62 W
8	23°43'.88 N	161°22'.81 W
9	23°41'.92 N	161°20'.13 W
10	23°39'.80 N	161°17'.60 W
11	23°37'.54 N	161°15'.21 W
12	23°35'.14 N	161°12'.99 W
13	23°32'.62 N	161°10'.93 W
14	23°29'.99 N	161°09'.05 W
15	23°27'.25 N	161°07'.35 W
16	23°24'.42 N	161°05'.85 W
17	23°21'.51 N	161°04'.54 W
18	23°18'.52 N	161°03'.43 W
19	23°15'.48 N	161°02'.53 W
20	23°12'.39 N	161°01'.84 W
21	23°09'.27 N	161°01'.35 W
22	23°06'.13 N	161°01'.09 W
23	23°02'.97 N	161°01'.03 W
24	22°59'.82 N	161°01'.19 W
25	22°56'.69 N	161°01'.57 W
26	22°53'.58 N	161°02'.15 W
27	22°50'.51 N	161°02'.95 W
28	22°47'.50 N	161°03'.95 W
29	22°44'.55 N	161°05'.15 W
30	22°41'.67 N	161°06'.54 W

31	22°38'.88 N	161°08'.13 W
32	22°36'.19 N	161°09'.90 W
33	22°33'.61 N	161°11'.85 W
34	22°31'.14 N	161°13'.97 W
35	22°28'.81 N	161°16'.25 W
36	22°26'.61 N	161°18'.69 W
37	22°24'.56 N	161°21'.26 W
38	22°22'.66 N	161°23'.97 W
39	22°20'.92 N	161°26'.80 W
40	22°19'.35 N	161°29'.74 W
41	22°17'.95 N	161°32'.78 W
42	22°16'.73 N	161°35'.90 W
43	22°15'.70 N	161°39'.10 W
44	22°14'.85 N	161°42'.37 W
45	22°14'.20 N	161°45'.68 W
46	22°13'.73 N	161°49'.03 W
47	22°13'.47 N	161°52'.41 W
48	22°13'.40 N	161°55'.80 W
49	22°13'.53 N	161°59'.18 W
50	22°13'.85 N	162°02'.55 W
51	22°14'.31 N	162°05'.45 W
52	22°14'.37 N	162°05'.89 W
53	22°14'.59 N	162°06'.88 W
54	22°15'.87 N	162°12'.18 W
55	22°17'.70 N	162°17'.31 W
56	22°19'.97 N	162°22'.20 W
57	22°22'.73 N	162°26'.84 W
58	22°25'.88 N	162°31'.15 W
59	22°29'.41 N	162°35'.09 W

60	22°33'.28 N	162°38'.61 W
61	22°37'.47 N	162°41'.72 W
62	22°41'.93 N	162°44'.34 W
63	22°46'.63 N	162°46'.47 W
64	22°51'.48 N	162°48'.05 W
65	22°56'.46 N	162°49'.09 W
66	23°01'.50 N	162°49'.58 W
67	23°06'.58 N	162°49'.49 W
68	23°11'.61 N	162°48'.89 W
69	23°16'.57 N	162°47'.70 W
70	23°21'.36 N	162°45'.98 W
71	23°26'.02 N	162°43'.75 W
72	23°30'.40 N	162°41'.01 W
73	23°34'.51 N	162°37'.83 W

74	23°38'.26 N	162°34'.18 W
75	23°41'.69 N	162°30'.18 W
76	23°44'.72 N	162°25'.79 W
77	23°47'.36 N	162°21'.11 W
78	23°49'.55 N	162°16'.16 W
79	23°51'.24 N	162°10'.99 W
80	23°52'.44 N	162°05'.63 W
81	23°53'.14 N	162°00'.25 W
82	23°53'.36 N	161°54'.75 W
83	23°53'.09 N	161°49'.28 W
84	23°52'.82 N	161°47'.09 W
85	23°52'.39 N	161°44'.67 W

ANNEX 27

RESOLUTION MSC.249(83)

(adopted on 8 October 2007)

ADOPTION OF A NEW MANDATORY SHIP REPORTING SYSTEM “ON THE APPROACHES TO THE POLISH PORTS IN THE GULF OF GDAŃSK”

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), in relation to the adoption of ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its fifty-third session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the new mandatory ship reporting system “On the approaches to the Polish ports in the Gulf of Gdańsk”;
2. DECIDES that the ship reporting system, “On the approaches to the Polish ports in the Gulf of Gdańsk (GDANREP)”, will enter into force at 0000 hours UTC on 1 May 2008; and
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of the Member Governments and SOLAS Contracting Governments to the 1974 SOLAS Convention.

ANNEX

**MANDATORY SHIP REPORTING SYSTEM “ON THE APPROACHES TO THE
POLISH PORTS IN THE GULF OF GDAŃSK” (GDANREP)**

A ship reporting system (GDANREP) is established in the Gulf of Gdańsk in the territorial and internal waters of Poland.

1 Categories of ships required to participate in the system

1.1 Ships of the following categories are required to participate in the system proceeding to or from Polish ports or passing through the reporting area between Polish ports in the Gulf of Gdańsk, or ships visiting the area:

- all passenger ships as defined in Chapter 1 of 1974 SOLAS, as amended;
- ships of 150 gross tonnage and above;
- all vessels engaged in towing.

2 Geographical coverage of the system and the number and edition of the reference chart used for the delineation of the system

2.1 The operational area of the mandatory ship reporting system covers the territorial and internal waters of Poland in the Gulf of Gdańsk, south of parallel 54° 45' N, between Reporting Line and Polish coastline.

2.2 The reference chart is Polish chart No.151 (INT 1291) published by the Hydrographic Office of the Polish Navy (Edition 2004). Chart datum is World Geodetic System 1984 (WGS-84) Datum.

2.3 For the purpose of this system Reporting Line means the line joining the following geographical positions:

(1)	54° 45'.00 N	018° 32'.56 E
(2)	54° 45'.00 N	019° 06'.10 E
(3)	54° 36'.20 N	019° 24'.20 E
(4)	54° 27'.49 N	019° 38'.30 E

2.4 For the purpose of this system Reporting Points are situated at the following geographical positions:

(5)	54° 35'.58 N	018° 52'.82 E
(6)	54° 35'.23 N	018° 53'.76 E
(8)	54° 36'.76 N	019° 04'.67 E
(9)	54° 36'.66 N	019° 07'.51 E
(10)	54° 31'.70 N	018° 40'.70 E
(11)	54° 28'.10 N	018° 42'.90 E
(12)	54° 25'.30 N	018° 54'.80 E

3 Format, content of reports, times and geographical positions for submitting reports, authority to whom reports should be sent and available services

Reports should be made using VHF voice transmissions. A ship may elect, for reasons of commercial confidentiality, to communicate, in compliance with the relevant national regulations, that section of the report which provides information on cargo by non-verbal means prior to entering the ship reporting area.

3.1 Format

Designators to be used in the GDANREP area are derived from the format-type given in paragraph 2 of the appendix to resolution A.851(20).

System identifier: GDANREP (SP)(PR)(FR)

3.2 Content

A full report from a ship to the shore-based Authority by voice should contain the following information:

3.2.1 Sailing Plan (SP)

- | | |
|---------|--|
| A | Name of the ship, call sign, IMO identification number (if applicable), MMSI number, flag |
| C or D | Position (expressed in latitude and longitude or bearing to and distance from a landmark) |
| E and F | Course and speed of the ship |
| G | Name of last port of call |
| I | Destination, ETA and ETD |
| O | Maximum present draught |
| P | Cargo and, if dangerous or polluting goods present on board, quantity and UN numbers and IMO hazard classes or pollution category thereof, as appropriate |
| Q or R | Defects, damage, deficiencies or other limitations (vessels towing are to report length of tow and name of object in tow) or any other circumstances affecting normal navigation in accordance with the provisions of the SOLAS and MARPOL Conventions |
| T | Contact information of ship's agent or owner |
| W | Total number of persons on board |
| X | Miscellaneous remarks, amount and nature of bunkers if over 5000 tons, navigational status |

3.2.2 Position Report (PR)

- A Name of the ship, call sign, IMO identification number (or MMSI for transponder reports)
- C or D Position (expressed in latitude and longitude or bearing to and distance from a landmark)

3.2.3 Final Report (FR)

- A Name of the ship, call sign, IMO identification number (or MMSI for transponder reports)
- C or D Position (expressed in latitude and longitude or bearing to and distance from a landmark)

3.2.4 Other Reports

When an incident or accident which can affect the safety of the ship, safety of navigation or any incident giving rise to pollution, or threat of pollution, to the marine environment occurs within the ship reporting system area, the vessel(s) shall immediately report to the shore-based Authority the type, time, and location of the incident, extent of damage or pollution, and whether assistance is needed. The vessel(s) shall provide without delay any additional information related to the incident or accident as requested by the shore-based Authority, given, when appropriate, in the format-type of detailed report as given in paragraph 3 of the appendix to resolution A.851(20).

Note:

On receipt of a position message, the system operators will establish the relationship between the ship's position and the information supplied by the position-fixing equipment available to them. Information on course and speed will help operators to identify one ship among a group of ships.

All VHF-, telephone-, radar-, AIS- and other relevant information are recorded and the records are stored for 30 days.

3.3 *Times and geographical position for submitting reports*

Participating vessels are to report to the shore-based authorities the information required in paragraph 3.2 in the following schedule:

- 3.3.1 The ship shall transmit the Sailing Plan (SP) on entry into the ship reporting system area by crossing Reporting Line.
- 3.3.2 The ship shall transmit the Position Report (PR) on passing the Reporting Points.
- 3.3.3 The ship shall transmit the Final Report (FR) when finally exiting from the ship reporting system area by crossing Reporting Line.

3.3.4 In the case of incidents or accidents as described in paragraph 3.2.4 the ship(s) shall transmit the Other Report(s) immediately to the shore-based Authority. The vessel(s) shall provide any additional information related to the incident or accident as requested by the shore-based Authority.

3.4 *Authority to whom reports should be sent and available services*

The shore-based Authority is Director of Maritime Office in Gdynia, Poland. The ships participating in the system shall transmit reports by radio to VTS Centre "Gulf of Gdańsk". The authority monitors shipping within the mandatory ship reporting area of the Gulf of Gdańsk by radar and AIS. This does not relieve ship masters of their responsibility for the navigation of their ship.

4 Information to be provided to participating ships and procedures to be followed

4.1 *Information provided*

4.1.1 Authority provides information to shipping about specific and urgent situations which could cause conflicting traffic movements and other information concerning safety of navigation, for instance:

- information on weather conditions, ice, water level;
- information on navigational conditions including navigational warnings (status of aids to navigation, presence of other ships and, if necessary, their position, etc.);
- recommended route to be followed and status of areas temporarily closed for navigation.

4.1.2 Information is broadcasted by VTS Centre "Gulf of Gdańsk" station on the working channel or on the reserve channel, following the announcement on the working channel in the form of routine bulletins or when necessary or on request. Scheduled times of the routine weather bulletins and navigational warnings broadcasts are available in the relevant nautical publications.

4.1.3 Participating ships shall maintain listening watch on the designated VTS working channel.

4.1.4 Information broadcasts will be preceded by an announcement on VHF channel 16 on which channel it will be made. All ships navigating in the area should listen to the announced broadcast.

4.1.5 If necessary, individual information can be provided to a ship on the working channel, particularly in relation to positioning and navigational assistance or local conditions. If a ship needs to anchor due to breakdown or emergency the operator can recommend suitable anchorage in the area.

4.2 *Ice routeing in winter*

During severe ice conditions the traffic separation schemes may be declared not valid. Mariners will be informed of the cancellation through Notices to Mariners and by

VHF broadcasts from the VTS Centre. Ships reporting to the Centre, will receive information on the recommended route through the ice and/or are requested to contact the regional ice-braking co-ordinator for further instructions.

4.3 *Deviations*

If a ship participating in the mandatory ship reporting system fails to appear on the radar screen or fails to communicate with the authority or an emergency is reported, MRCC in the area is responsible for initiating a search for the ship in accordance with the rules laid down for the search and rescue service, including the involvement of other participating ships known to be in that particular area.

5 Radiocommunication required for the system, frequencies on which reports should be transmitted and information to be reported

5.1 The radio communications equipment required for the system is that defined in the GMDSS for sea area A1.

5.2 Reports shall be made by voice on VHF radio using the primary VTS working channel.

5.3 When submitting reports the system identifier GDANREP can be omitted.

5.4 The voice call sign of the VTS Centre “Gulf of Gdańsk” is “VTS Zatoka”.

5.5 The VHF working channels of the VTS Centre “Gulf of Gdańsk” are:

Primary	channel 71	call and short report information
Reserve	channel 66	as designated by VTS
Other	channel 16	call and distress

5.6 Ships are required to maintain a continuous listening watch in the area on VTS working channel and to report and take any action required by the maritime Authorities to reduce risks.

5.7 Confidential information may be transmitted by other means, including electronically, in compliance with relevant national regulations.

5.8 The language used for communication shall be English or Polish, using the IMO Standard Marine Communications Phrases, where necessary.

6 Relevant rules and regulations in force in the area of the system

6.1 *Regulations for Preventing Collisions at Sea*

The International Regulations for Preventing Collisions at Sea, 1972, as amended, are applicable throughout the reporting area.

6.2 *Traffic Separation Schemes*

The Traffic Separation Schemes in the Gulf of Gdańsk have been adopted by IMO and rule 10 of the International Regulations for Preventing Collisions at Sea applies.

6.3 *Pilotage*

Pilotage is mandatory in national waters under national laws.

6.4 *National regulations*

Relevant local regulations issued under authority of Director of Maritime Office in Gdynia, including Port Regulations, are in force in the Polish internal waters and are promulgated in the nautical publications.

6.5 *Dangerous and polluting cargoes*

Ships carrying dangerous or polluting cargoes and bound to or from any port within the ship reporting area must comply with the international and national regulations. The ship reporting system does not relieve ships masters of their responsibility to give the nationally required reports and information to any other relevant authorities. Discharges of oil and ship-generated waste is monitored by the authority. Ships causing pollution within the area can be prosecuted and fined.

7 Shore-based facilities to support operation of the system

7.1 VTS “Gulf of Gdańsk” is equipped with radars network, VHF communications network, VHF-DF, Automatic Identification System (AIS) facilities, hydro-meteorological sensors and information processing and retrieval system. Its functions are data collection and evaluation, provision of information, navigation assistance, and provision of maritime safety-related information to allied services.

7.2 VTS Centre maintains a continuous 24-hour watch and is manned by two operators at all times. The VTS Centre is staffed with personnel trained according to national and international recommendations.

7.3 VTS Centre shares traffic image and ship reporting data with MRCC in Gdynia and other allied services.

8 Information concerning the applicable procedures if the communication facilities of the shore-based Authority fail

The system is designed with sufficient system redundancy to cope with normal equipment failure, with multiple receivers on each channel. Should a VTS Centre suffer an irretrievable breakdown and call off itself from the system until the failure is repaired, it could be relieved by one of the Harbour Master’s Traffic Control, which jointly use the VTS traffic image and reporting data and is operated by the shore-based Authority.

9 Description of plans for providing a response to an emergency that poses a risk to the safety of life at sea or threatens the marine environment

9.1 *SAR plan*

The national maritime SAR plan establishes the MRCC in Gdynia, which is responsible in the event of an emergency that poses risk to the safety of life at sea and for deploying SAR units operating in the reporting area.

9.2 *National contingency plan*

The Director of Maritime Office in Gdynia is the authority responsible for prevention and control of pollution produced by oil and other harmful substances in the reporting area waters. Given the extent of the damage that can be caused by oil spills, there is a National Contingency Plan to deal with them, upon which various authorities co-operate under operational co-ordination of MRCC.

10 Measures to be taken if a ship fails to comply with the requirements of the system

10.1 The primary objective of the system is to enhance the safe navigation and the protection of the marine environment through the exchange of information between the ship and the shore. All means will be used to encourage and promote the full participation of ships required to submit reports under SOLAS regulation V/11.

10.2 If reports are not submitted and the offending ship can be positively identified, then information will be passed to the relevant Flag State Authorities for investigation and possible prosecution in accordance with national legislation. Information will be passed also to Port State Control, while at the same time an investigation will be launched with a view to possible legal action being taken in accordance with national legislation.

ANNEX 28

RESOLUTION MSC.250(83)

(adopted on 8 October 2007)

**ADOPTION OF A NEW MANDATORY SHIP REPORTING SYSTEM
“OFF THE SOUTH AND SOUTHWEST COAST OF ICELAND (TRANSREP)”**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), in relation to the adoption of ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its fifty-third session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the new mandatory ship reporting system “Off the southwest coast of Iceland”;
2. DECIDES that the ship reporting system, “Off the southwest coast of Iceland (TRANSREP)”, will enter into force at 0000 hours UTC on 1 July 2008; and
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of the Member Governments and SOLAS Contracting Governments to the 1974 SOLAS Convention.

ANNEX

MANDATORY SHIP REPORTING SYSTEM “OFF THE SOUTH AND SOUTHWEST COAST OF ICELAND (TRANSREP)”

1 Categories of ships required to participate in the system

1.1 Ships of the following categories are required to participate in the system:

- .1 ships calling at ports located within the eastern ATBA off the south and southwest coast of Iceland; and
- .2 ships of less than 5,000 gross tonnage permitted to transit the eastern ATBA south of latitude 63° 45' N when engaged on voyages between Icelandic ports and not carrying dangerous or noxious cargoes in bulk or in cargo tanks.

Pursuant to SOLAS 1974, the mandatory ship reporting system does not apply to any warship, naval auxiliary, coast guard vessel, or other vessel owned or operated by a contracting government and used, for the time being, only on government non-commercial service. However, such ships are encouraged to participate in the reporting system. The mandatory ship reporting system does not apply to fishing vessels with fishing rights within Iceland's exclusive economic zone (EEZ) and research vessels.

2 Geographical coverage of the system and the number and edition of the reference charts used for the delineation of the system

The reporting system covers the proposed ATBA (the eastern area) off the south and southwest coast of Iceland located entirely within Icelandic territorial waters, and is bounded by lines connecting the following geographical positions:

(25)	Dyrhólaey Light	63° 24'.13 N	019° 07'.83 W
(24)	S of Surtsey Island	63° 10'.00 N	020° 38'.00 W
(23)	S of Reykjanes Point	63° 40'.90 N	022° 40'.20 W
(22)	SW of Reykjanes Point	63° 45'.80 N	022° 44'.40 W
(21)	Húllid Passage SE part	63° 47'.00 N	022° 47'.60 W
(20)	Húllid Passage NE part	63° 48'.00 N	022° 48'.40 W
(19)	SW of Litla Sandvik	63° 49'.20 N	022° 47'.30 W
(18)	Off Sandgerdi	64° 01'.70 N	022° 58'.30 W
(8)	NW of Gardskagi Point	64° 07'.20 N	022° 47'.50 W
(9)	N of Gardskagi Point	64° 07'.20 N	022° 41'.40 W
(17)	Gardskagi Light	64° 04'.92 N	022° 41'.40 W

(The reference chart, which includes all the area of coverage for the system is Icelandic Chart No.31, INT 1105 *Dyrhólaey – Snæfellsnes*, (new edition June 2004) based on Datum WGS-84.)

3 Format, contents of report, times and geographical positions for submitting reports, Authority to whom reports must be sent and available services

The ship report, short title “TRANSREP”, shall be made to the shore-based Authority, Icelandic Maritime Traffic Service (MTS), located in Reykjavík. Reports should be made using VHF voice transmissions.

3.1 Format

The ship report to the shore-based Authority shall be in accordance with the format shown in paragraph 5.5. The information requested from ships is derived from the standard reporting format and procedures set out in paragraph 2 of the appendix to resolution A.851(20).

3.2 Content

The report required from a ship to the shore-based Authority contains only information which is essential to meet the objectives of the system:

Information considered to be essential:

- | | |
|--------|--|
| A | Name of ship, call sign and IMO number |
| C or D | Position (latitude and longitude or in relation to a landmark) |
| E | Course |
| F | Speed |
| G | Port of departure |
| H | Date, time and point of entry into system |
| I | Port of destination |
| K | Date, time and point of exit from system or departure from a harbour within the ATBA |
| L | Intended track within the ATBA |

In the event of defect, pollution or goods lost overboard, additional information may be requested.

3.3 Geographical position for submitting reports

Ships entering the ATBA shall report to the MTS their estimated time of crossing the area limits, specified in paragraph 2, 4 hours prior to entering the area or when departing from harbours in Faxaflói Bay. Ships leaving harbours within the ATBA shall report on departure.

3.4 Authority

The shore-based Authority is the Icelandic Maritime Traffic Service (MTS), which is operated by the Icelandic Coast Guard.

4 Information to be provided to ships and procedures to be followed

Detected and identified ships are monitored by AIS, which in no way releases their master from his responsibility for safe navigation.

Following the reception of a report, the Maritime Traffic Service can, on request, provide:

- information on navigational conditions; and
- information on weather conditions.

5 Radiocommunication required for the system, frequencies on which reports should be transmitted and information to be reported

- .1 TRANSREP will be based on VHF voice radiocommunications.
- .2 The call to the shore-based Authority shall be made on VHF channel 70 (16).
- .3 However, a ship which cannot use VHF channel 70 (16) in order to transmit the reports should use MF DSC or INMARSAT.
- .4 The language used for communication shall be English, using the IMO Standard Marine Communication Phrases, where necessary.
- .5 Information to be reported:
 - A Name of ship, call sign and IMO number
 - C or D Position (latitude and longitude or in relation to a landmark)
 - E Course
 - F Speed
 - G Port of departure
 - H Date, time and point of entry into system
 - I Port of destination
 - K Date, time and point of exit from system or departure from a harbour within the ATBA
 - L Intended track within the ATBA

6 Rules and regulations in force in the areas of the system

Relevant laws in force include domestic legislation and regulations to implement the Convention on the International Regulations for Preventing Collisions at Sea, 1972, the International Convention for the Safety of Life at Sea, 1974, and the International Convention for the Prevention of Pollution from Ships, 73/78.

7 Shore-based facilities to support operation of the system

The Icelandic Maritime Traffic Service (MTS).

- The MTS is equipped with AIS covering the whole of the ATBA;
- VHF, MF, HF and INMARSAT communication equipment;
- Telephone, telefax and e-mail communication facilities, and
- Personnel operating the system: The MTS is manned by Coast Guard personnel on a 24-hour basis.

8 Alternative communication if the communication facilities of the shore-based Authority fail

TRANSREP is planned with a sufficient system redundancy to cope with normal equipment failure.

ANNEX 29

RESOLUTION MSC.251(83)

(adopted on 8 October 2007)

**ADOPTION OF AMENDMENTS TO THE EXISTING MANDATORY SHIP
REPORTING SYSTEMS “OFF USHANT”, “OFF LES CASQUETS”
AND “DOVER STRAIT/PAS DE CALAIS”**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), in relation to the adoption of ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its fifty-third session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the amendments to the existing mandatory ship reporting systems “Off Ushant” (OUESSREP), “Off Les Casquets” (MANCHEREP) and “Dover Strait/Pas de Calais” (CALDOVREP);
2. DECIDES that the said amendments to the existing mandatory ship reporting systems, “Off Ushant (OUESSREP)”, “Off Les Casquets (MANCHEREP)” and “Dover Strait/Pas de Calais (CALDOVREP)”, will enter into force at 0000 hours UTC on 1 May 2008; and
3. REQUESTS the Secretary-General to bring this resolution and its annex to the attention of the Member Governments and SOLAS Contracting Governments to the 1974 SOLAS Convention.

ANNEX

**AMENDMENTS TO THE EXISTING MANDATORY SHIP REPORTING SYSTEMS
“OFF USHANT (OUESSREP)”, “OFF LES CASQUETS (MANCHEREP)” AND “IN
DOVER STRAIT/PAS DE CALAIS (CALDOVREP)”**

1 OFF USHANT (OUESSREP)

Amend paragraph 3.1 “Content” and paragraph 1.4 “Reporting format” of the SUMMARY to read as follows: (see Appendix)

2 OFF LES CASQUETS (MANCHEREP)

Amend paragraph 3.1 “Content” to read as follows: (see Appendix)

3 IN DOVER STRAIT/PAS DE CALAIS (CALDOVREP)

Amend paragraph 3.2 “Content” and section 4 “Reporting format” of the SUMMARY to read as follows: (see Appendix)

Appendix

“The report required should include:

- A – Name, call sign, IMO No. (or MMSI No. for reporting by transponder);
- B – Date and time;
- C or D – Position in latitude and longitude or true bearing and distance from a clearly identified landmark;
- E – True course;
- F – Speed;
- G – Port of departure;
- I – Port of destination and expected time of arrival;
- O – Present draught;
- P – Cargo and, if dangerous goods are on board, IMO quantity and class;
- Q or R – Defect, damage and/or deficiencies affecting ship’s structure, cargo or equipment, or any other circumstance affecting normal navigation, in accordance with the SOLAS or MARPOL Conventions;
- T – Address for provision of information concerning a cargo of dangerous goods;
- W – Number of persons on board;
- X – Miscellaneous:
 - Estimated quantity of bunker fuel and characteristics for ships carrying over 5,000 tonnes bunker fuel;
 - Navigation conditions.”

ANNEX 30**RESOLUTION MSC.252(83)****(adopted on 8 October 2007)****ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR
INTEGRATED NAVIGATION SYSTEMS (INS)**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee and/or the Marine Environment Protection Committee, as appropriate, on behalf of the Organization,

RECALLING FURTHER regulation V/15 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, concerning principles relating to bridge design, design and arrangement of navigational systems and equipment and bridge procedures,

NOTING that SOLAS regulation V/18 requires type approved navigational systems conforming to appropriate performance standards,

RECOGNIZING the need to revise the performance standards for Integrated Navigation Systems (INS) to enhance the safety of navigation by providing integrated and augmented functions to avoid geographic, traffic and environmental hazards,

HAVING CONSIDERED the recommendation on the revised performance standards for Integrated Navigation Systems made by the Sub-Committee on Safety of Navigation at its fifty-third session, and the Maritime Safety Committee at its eighty-third session,

1. ADOPTS the Revised Recommendation on performance standards for Integrated Navigation Systems (INS), set out in the Annex to the present resolution;
2. RECOMMENDS Governments ensure that Integrated Navigation Systems (INS):
 - (a) if installed on or after 1 January 2011, conform to performance standards not inferior to those specified in the Annex to the present resolution; and
 - (b) if installed on or after 1 January 2000 but before 1 January 2011, conform to performance standards not inferior to those specified in the Annex 3 to resolution MSC.86(70).

ANNEX

PERFORMANCE STANDARDS FOR INTEGRATED NAVIGATION SYSTEMS (INS)

1 Purpose of integrated navigation systems

1.1 The purpose of integrated navigation systems (INS) is to enhance the safety of navigation by providing integrated and augmented functions to avoid geographic, traffic and environmental hazards.

1.2 By combining and integrating functions and information the INS provides “added value” for the operator to plan, monitor and/or control safety of navigation and progress of the ship.

1.3 Integrity monitoring is an intrinsic function of the INS. The INS supports safety of navigation by evaluating inputs from several sources, combining them to provide information giving timely alerts of dangerous situations and system failures and degradation of integrity of this information.

1.4 The INS presents correct, timely, and unambiguous information to the users and provides subsystems and subsequent functions within the INS and other connected equipment with this information.

1.5 The INS supports mode and situation awareness.

1.6 The INS aims to ensure that, by taking human factors into consideration; the workload is kept within the capacity of the operator in order to enhance safe and expeditious navigation and to complement the mariner's capabilities, while at the same time to compensate for their limitations.

1.7 The INS aims to be demonstrably suitable for the user and the given task in a particular context of use.

1.8 The purpose of the alert management is specified in module C.

2 Scope

2.1 Navigational tasks

2.1.1 An INS comprises navigational tasks such as “Route planning”, “Route monitoring”, “Collision avoidance”, “Navigation control data”, “Navigation status and data display” and “Alert management”, including the respective sources, data and displays which are integrated into one navigation system. These tasks are described in paragraph 7.

2.1.2 An INS is defined as such if work stations provide multifunctional displays integrating at least the following navigational tasks/functions:

- “Route monitoring”
- “Collision avoidance”

and may provide manual and/or automatic navigation control functions.

2.1.3 Other mandatory tasks

2.1.3.1 An alert management is a part of the INS. The scope and the requirements of the alert management are specified in module C.

2.1.3.2 The presentation of navigation control data for manual control as specified in paragraph 7.5.2 of these performance standards is part of the INS.

2.1.4 Other navigational tasks/functions may also be integrated in the INS.

2.2 Task stations

2.2.1 The tasks are allocated to, and operated by the operator on, a defined set of multi-functional “task stations”.

2.2.2 The scope of an INS may differ dependent on the number and kind of tasks integrated.

2.2.3 Configuration, use, operation and display of the INS is situation-dependent on:

- shift underway, at anchor, and moored,
- manual and automatic navigation control in different waters,
- planned routine navigation and special manoeuvres.

3 Application of these performance standards

3.1 Purpose of these standards

3.1.1 The purpose of these performance standards is to support the proper and safe integration of navigational functions and information.

3.1.2 The purpose is in particular:

- to allow the installation and use of an INS instead of stand-alone navigational equipment onboard ships; and
- to promote safe procedures for the integration process;

both for

- comprehensive integration; and
- partial integration,

of navigational functions, data and equipment.

3.1.3 These standards supplement for INS functional requirements of the individual Performance Standards adopted by the Organization.

3.2 Application to tasks

3.2.1 These performance standards are applicable to systems where functions/equipment of at least the navigational tasks mentioned in paragraph 2.1.2 are combined.

3.2.2 If further tasks are integrated, the requirements of these standards should apply to all additional functions implemented in the INS.

3.3 Modules of these standards

3.3.1 These performance standards are based on a modular concept which should provide for individual configurations and for extensions, if required.

3.3.2 These standards contain four modules:

- Module A for the requirements for the integration of navigational information,
- Module B for the operational/functional requirements for INS based on a task-related structure,
- Module C for the requirements of the Alert management, and
- Module D for the Documentation requirements.

3.4 Application of modules

These performance standards are applicable to all INS as follows:

3.4.1 Modules A, C, D and paragraphs 6, 8 to 13 of module B are applicable for any INS.

3.4.2 Additionally, for each task integrated into the INS, the INS should fulfil both:

- the requirements of the respective tasks as specified in paragraph 7 of module B and
- the relevant modules of performance standards for stand-alone equipment as specified in Table 1.

Table 1

INS Tasks and functions (Para of this standard)	Additionally applicable modules of specific equipment standards for task integrated into the INS. The modules are specified in the appendices of these performance standards, if not specified in the equipment standards.
Collision avoidance (7.4)	Radar PS (Res. MSC.192(79)) (Modules specified in Appendix 3) Module A: "Sensor and Detection" Module B: "Operational requirements" Module C: "Design and Technical requirements"
Route planning (7.2) Route monitoring (7.3)	ECDIS PS (Res. MSC.232(82)) Module A: "Database" Module B: "Operational and functional requirements"
Track control (7.5.3 and 8.6, 8.7)	Track Control PS Res. MSC.74(69), Annex 2 (Modules specified in Appendix 4) Module B: "Operational and functional requirements"

3.5 Acceptance of INS as navigational equipment

3.5.1 These standards may allow for accepting INS to substitute for some carriage requirements of navigational equipment as equivalent to other means under SOLAS regulation V/19. In this case, the INS should comply with:

- these performance standards; and
- for the relevant tasks of these performance standards, with the applicable modules of the equipment performance standards as specified in Table 2.

Table 2

Allow for accepting the INS as	INS in compliance with	
	Tasks and functions (Para of this standard)	Applicable modules of specific equipment standards as specified in the Appendices of the document
Radar system	Collision avoidance (7.4)	Radar PS (Res. MSC.192(79)) (Modules specified in Appendix 3) Module A: "Sensor and Detection" Module B: "Operational requirements" Module C: "Design and Technical requirements"
ECDIS	Route planning (7.2) Route monitoring (7.3)	ECDIS PS (Res. MSC.232(82)) Module A: "Database" Module B: "Operational and functional requirements"
Heading control system (HCS)	Navigation control data (7.5) or Navigation status and data display (7.7)	Res. A.342, as amended – MSC.64(67), Annex 3
Track control system, (TCS)	Navigation control data and track control (7.5.3 and 8.6, 8.7)	Track Control Res. MSC.74(69), Annex 2 (Modules specified in Appendix 4) Module B: "Operational and functional requirements"
Presentation of AIS data	Collision avoidance (7.4) Navigation control data (7.5)	MSC.74 (69), Annex 3
Echo sounding system	Route monitoring (7.3)	MSC.74(69), Annex 4
EPFS	Navigation control data (7.5) or Navigation status and data display (7.7)	GPS Res. A.819(19), as amended, MSC.112(73) or GALILEO, Res. MSC.233(82) or GLONAS, Res. MSC.53(66), as amended MSC.113(73)
SDME	Navigation control data (7.5) or Navigation status and data display (7.7)	Res. MSC.96(72)

3.6 The application of the alert management is specified in module C.

3.7 Other relevant standards

3.7.1 The workstation design, layout and arrangement is not addressed in this performance standards, but in MSC/Circ.982.

4 Definitions

For the purpose of these standards the definitions in Appendix 1 apply.

Module A – Integration of Information

5 Requirements for integration of navigational information

5.1 Interfacing and data exchange

5.1.1 An INS should combine, process and evaluate data from connected sensors and sources.

5.1.2 The availability, validity and integrity of data exchange within the INS and from connected sensors and sources should be monitored.

5.1.3 A failure of data exchange should not affect any independent functionality.

5.1.4 Interfacing to, from, and within the INS should comply with international standards for data exchange and interfacing as appropriate.

5.1.5 The interface(s) should comply with the interface requirements of the alert management as described in Module C of these performance standards.

5.2 Accuracy

5.2.1 INS data should comply with the accuracy and resolution required by applicable performance standards of the Organization.

5.3 Validity, plausibility, latency

5.3.1 Validity

5.3.1.1 Data failing validity checks should not be used by the INS for functions dependent on these data, unless for cases where the relevant performance standards specifically allow use of invalid data. There should be no side effects for functions not depending on this data.

5.3.1.2 When data used by the INS for a function becomes invalid, or unavailable, a warning should be given. When data not actually in use by the INS becomes invalid, or unavailable, a this should be indicated at least as a caution.

5.3.2 Plausibility

5.3.2.1 Received or derived data that is used or distributed by the INS should be checked for plausible magnitudes of values.

5.3.2.2 Data which has failed the plausibility checks should not be used by the INS and should not affect functions not dependent on these data.

5.3.3 Latency

5.3.3.1 Data latency (timeliness and repetition rate of data) within the INS should not degrade the functionality specified in the relevant performance standards.

5.4 Consistent common reference system (CCRS)

5.4.1 Consistency of data

5.4.1.1 The INS should ensure that the different types of information are distributed to the relevant parts of the system, applying a “consistent common reference system” for all types of information.

5.4.1.2 Details of the source and the method of processing of such data should be provided for further use within INS.

5.4.1.3 The CCRS should ensure that all parts of the INS are provided with the same type of data from the same source.

5.4.2 Consistent common reference point

5.4.2.1 The INS should use a single consistent common reference point for all spatially related information. For consistency of measured ranges and bearings, the recommended reference location should be the conning position. Alternative reference locations may be used where clearly indicated or distinctively obvious. The selection of an alternative reference point should not affect the integrity monitoring process.

5.4.3 Consistency of thresholds

5.4.3.1 The INS should support the consistency of thresholds for monitoring and alert functions.

5.4.3.2 The INS should ensure by automatic means that consistent thresholds are used by different parts of an INS, where practicable.

5.4.3.3 A caution may be given when thresholds entered by the bridge team differ from thresholds set in other parts of the INS.

5.5 Integrity monitoring

5.5.1 The integrity of data should be monitored and verified automatically before being used, or displayed.

5.5.2 The integrity of information should be verified by comparison of the data derived independently from at least two sensors and/or sources, if available.

5.5.3 The INS should provide manual or automatic means to select the most accurate method of integrity monitoring from the available sensors and/or sources.

5.5.4 A clear indication of the sensors and sources of data selected for integrity monitoring should be provided.

5.5.5 The INS should provide a warning, if integrity verification is not possible or failed.

5.5.6 Data which fails the integrity monitoring function or data where integrity monitoring is not possible should not be used for automatic control systems/functions.

5.6 Marking of data

5.6.1 The data should be marked with the source and the results of validity, plausibility checks and integrity monitoring to enable subsequent functions to decide whether their input data complies with their requirements or not.

5.7 Selection of sensors and sources

5.7.1 INS should provide two user selectable sensor/source selection modes when multiple sensors/sources are available; manual sensor/source selection mode and automatic sensor/source selection mode.

5.7.2 In manual sensor/source selection mode it should be possible to select individual sensors/sources for use in the INS. In case a more suitable sensor/source is available this should be indicated.

5.7.3 In automatic sensor/source selection mode, the most suitable sensors/sources available should be automatically selected for use in the INS. It should further be possible to manually exclude individual sensors/sources from being automatically selected.

Module B – Task related requirements for Integrated Navigation Systems

6 Operational requirements

6.1 The design of the INS should ease the workload of the bridge team and pilot in safely and effectively carrying out the navigation functions incorporated therein.

6.2 The integration should provide all functions, depending of the task for which the INS is used and configured, to facilitate the tasks to be performed by the bridge team and pilot in safely navigating the ship.

6.3 Each part of the INS should comply with all applicable requirements adopted by the Organization, including the requirements of these performance standards.

6.4 When functions of equipment connected to the INS provide facilities in addition to these performance standards, the operation and, as far as is reasonably practicable, the malfunction of such additional facilities should not degrade the performance of the INS below the requirements of these standards.

6.5 The integration of functions of individual equipment into the INS should not degrade the performance below the requirements specified for the individual equipment by the Organization.

6.6 Alerts should be generated and presented according to Module C.

7 Task and functional requirements for an INS

7.1 General

7.1.1 The configuration of the INS should be modular and task - oriented. The navigational tasks of an INS are classified as “Route planning”, “Route monitoring”, “Collision avoidance”, “Navigation control data”, “Status and data display” and “Alert management”. Each of these tasks comprises the respective functions and data.

7.1.2 All tasks of an INS should use the same electronic chart data and other navigational databases such as routes, maps, tide information.

7.1.3 If Electronic Navigational Charts (ENCs) are available, they should be used as common data source for INS.

7.1.4 Paragraphs 7.2 to 7.5 and 7.7 apply, if the respective task is integrated into the INS.

7.2 Task “Route planning”

7.2.1 ECDIS performance standards related mandatory functions and data

The INS should provide the route planning functions and data as specified in Module A and B of the revised ECDIS performance standards (resolution MSC.232(82)).

7.2.2 Procedures for voyage planning

The INS should be capable of supporting procedures for relevant parts of voyage planning, as adopted by the Organization¹.

7.2.3 Additional mandatory functions

The INS should provide means for

- administering the route plan (store and load, import, export, documentation, protection),
- having the route check against hazards based on the planned minimum under keel clearance as specified by the mariner,
- checking of the route plan against manoeuvring limitation, if available in the INS, based on parameters turning radius, rate of turn (ROT), wheel-over and course changing points, speed, time, ETAs,
- drafting and refining the route plan against meteorological information if available in the INS.

¹ Resolution A.893(21) on Guidelines for voyage planning.

7.3 Task “Route monitoring”

7.3.1 ECDIS performance standards related mandatory functions and data

The INS should provide the route monitoring functions and data as specified in Module A and B in the ECDIS performance standards.

7.3.2 Additional mandatory functions

The INS should provide capability for

- optionally overlaying radar video data on the chart to indicate navigational objects, restraints and hazards to own ship in order to allow position monitoring evaluation and object identification,
- determination of deviations between set values and actual values for measured under-keel clearance and initiating an under-keel clearance alarm, if fitted,
- the alphanumeric display the present values of Latitude, Longitude, heading, COG, SOG, STW, under-keel clearance, ROT (measured or derived from change of heading),
- AIS reports of AtoNs,

and if track control is integrated into the INS,

- it should be possible to include the planned track and to provide, monitor and display the track related and manoeuvring data.

7.3.3 Optional Functions

For navigational purposes, the display of other route-related information on the chart display is permitted, e.g.,

- tracked radar targets and AIS targets
- AIS binary and safety-related messages
- initiation and monitoring of man-over-board and SAR manoeuvres (search and rescue and man-over-board modes)
- NAVTEX
- tidal and current data
- weather data
- ice data.

7.3.4 Search and rescue mode

7.3.4.1 If available it should be possible to select on the route monitoring display a predefined display mode for a “search and rescue” situation, that can be accessed upon simple operator command.

7.3.4.2 In the search and rescue mode a superimposed graphical presentation of the datum (geographic point, line, or area used as a reference in search planning), initial most probable area for search, commence search point and search pattern chosen by the operator (expanding square search pattern, sector search pattern or parallel track search pattern) with track spacing defined by him should be presented.

7.3.5 Man-over-board (MOB) mode

7.3.5.1 If available it should be possible to select on the route monitoring display a predefined display mode for a “man-over-board” situation, that can be accessed upon simple operator command.

7.3.5.2 In the man-over-board mode a superimposed graphical presentation of a operator selectable man-over-board manoeuvre should be presented.

7.3.5.3 The man-over-board position should be memorised by a simple operator action.

7.3.5.4 An urgency manoeuvring procedure should be available at the display taking set and drift into consideration.

7.4 Task “Collision Avoidance”

7.4.1 Radar performance standards related mandatory functions and data

The INS should provide the collision avoidance functions and data as specified in Module A and B of the Radar performance standards.

7.4.2 Additional mandatory functions

7.4.2.1 It should be possible to present less information of ENC database objects than specified in MSC.232(82) for display base.

7.4.2.2 Target association and target data integration

If target information from multiple sensors/sources (radar and AIS; 2 radar sensors) are provided on one task station:

- the possibility of target association should be provided for mutual monitoring and to avoid the presentation of more than one symbol for the same target,
- the association of AIS and radar targets should follow the requirements of resolutions MSC.192(79) and MSC.191(79),
- common criteria should be used for raising target related alerts, e.g., CPA/TCPA.

7.4.2.3 Target identifier

For identical targets unique and identical target identifiers should be used for presentation on all INS displays.

Where a target from more than one source can be presented on one display the identifier should be amended as required. Amended target identifiers should be used for all INS display presentations.

7.4.2.4 Combined radar signals

A display may present combined radar signals from more than one radar source. The malfunctions of this additional facility should not degrade the presentation of the radar source selected as primary. The primary and the other source(s) should be indicated as such.

7.4.3 Optional functions

Optionally, the following information may be displayed:

- true scaled ship symbols and CPA/TCPA and bow crossing range (BCR) / bow crossing time (BCT) related to the real dimensions
- chart data from the common database of INS: traffic-related object layers.

7.5 Task “Navigation Control Data”

7.5.1 General

To support the manual and automatic control of the ship’s primary movement the INS navigation control task should provide the following functionality:

- display of data for the manual control of the ship’s primary movement
- display of data for the automatic control of the ship’s primary movement
- presentation and handling of external safety related messages.

7.5.2 Presentation of navigation control data for manual control

7.5.2.1 For manual control of the ship’s primary movement the INS navigation control display should allow at least to display the following information:

- under keel clearance (UKC) and UKC profile
- STW, SOG, COG
- position
- heading, ROT (measured or derived from change of heading)
- rudder angle
- propulsion data
- set and drift, wind direction and speed (true and/or relative selectable by the operator), if available
- the active mode of steering or speed control
- time and distance to wheel-over or to the next waypoint
- safety related messages e.g., AIS safety-related and binary messages, Navtex.

7.5.3 Presentation of navigation control data for automatic control

7.5.3.1 For automatic control of the ship’s primary movement, the INS navigation control display should allow at least and as default the display of the following information:

- all information listed for manual control
- set and actual radius or rate of turn to the next segment.

7.5.4 The navigation control data should be presented:

- in digital and where appropriate in analogue form, e.g., mimic elements, logically arranged on and around a symbolic outline of a ship,
- if applicable, together with their “set- values”,
- if applicable and on demand together with a history presentation to indicate the trend of the parameter.

7.6 Task “Alert management”

7.6.1 Scope, operational requirements and alert-related requirements are specified in Module C of these performance standards.

7.7 Task “Status and data display”

7.7.1 Mandatory data display functions

The INS should provide the following data display functions:

- presentation of mode and status information
- presentation of the ship’s static, dynamic and voyage-related AIS data
- presentation of the ship’s available relevant measured motion data together with their “set – values”
- presentation of received safety related messages, such as AIS safety-related and binary messages, Navtex
- presentation of INS configuration
- presentation of sensor and source information.

7.7.2 Mandatory data management functions

The INS should provide the following management functions:

- setting of relevant parameters
- editing AIS own ship’s data and information to be transmitted by AIS messages.

7.7.3 Optional data display functions

The INS may provide on demand:

- tidal and current data
- weather data, ice data
- additional data of the tasks Navigation control and Route monitoring and AIS target data.

8 Functional requirements for INS task stations

8.1 Number of task stations

8.1.1 The number of task stations on the bridge depends on the tasks integrated into the INS. It should support the simultaneous operation and presentation of at least the minimum set of tasks necessary to meet the carriage requirements of SOLAS regulation V/19.

8.1.2 To specify the required number of task stations the required backup arrangements as mandated by the carriage requirements of SOLAS regulation V/19 should be taken into account.

8.2 For each tasks of:

- route monitoring
- collision avoidance
- navigation control data,

a task station should be provided, if the respective task is part of the INS.

8.3 Additional tasks

For the tasks of:

- route planning,
- status and data display, and
- alert management,

means should be provided to operate the tasks at least at one of the task stations referred to on paragraph 8.2 or at least at another additional task station at the choice of the bridge team and pilot.

8.4 Remote route planning

For the task “Route planning”, a separate remote task station may be provided.

8.5 The allocation of the tasks to the task stations should be sufficiently flexible, to support all navigational situations, and should be sufficiently simple to support team working and awareness of operator roles. The selection of the task at the task station should be possible by a simple operator action.

8.6 Track control

If the function of track control is implemented in the INS,

8.6.1 it should be possible to display the planned route graphically on the task stations for:

- “Route monitoring”, and/or
- “Collision avoidance”.

8.6.2 the control and operation of this function by the user should be possible via the task stations for:

- “Route monitoring”, and/or
- “Collision avoidance”.

8.7 Automatic control functions

8.7.1 Task station with control

Only one, clearly indicated task station should be in control of an automatic function and only one task station should at any time be assigned to accept control commands. It should clearly be indicated to the bridge team and pilot, if not otherwise obvious, which task station is in control of these functions.

8.7.2 It should be possible to take over the control from a task station. In this case the set control values and limits should remain unchanged.

8.7.3 The information relevant for the selected control function should be available for continuous display, at least upon a single operator command, and should in be presented when an automatic control function is activated or changed.

8.7.4 Override

8.7.4.1 It should be allowed by a single operator action to override or by-pass any automated function, regardless of the operational mode and the failure status of the INS.

8.7.4.2 The INS should resume automatic functions only after an appropriate message and intentional operator action, considering all necessary starting conditions.

9 Functional requirements for displays of INS

9.1 General

9.1.1 The INS should comply with the presentation requirements adopted by the Organization².

9.1.2 All essential information should be displayed clearly and continuously. Additional navigational information may be displayed, but should not mask, obscure or degrade essential information required for the display by its primary task, as specified in this performance standards.

9.1.3 The INS should be capable of displaying data available from the sensors.

9.1.4 The information should be displayed together with the indication of its source (sensor data, result of calculation or manual input), unit of measurement and status, including mode.

9.1.5 Display and update of essential information available in the equipment as well as safety related automatic functions should not be inhibited due to operation of the equipment.

² MSC.191(79), SN/Circ.243.

9.2 Default display configurations and operational modes

9.2.1 The INS should offer default display configurations for the tasks route monitoring and collision avoidance selectable at each task station to provide the bridge team and pilot with a standardized display. This configuration should be accessible by a simple operator action. The basic requirements for these display configurations are specified in Appendix 6.

9.2.2 The INS should provide operational modes for open sea, coastal, confined waters (pilotage, harbour berthing, anchorage).

9.2.3 User-defined display modes

It is recommended that the INS provides means to generate pre-defined or operator-defined display modes, that are optimally suitable to the navigation task.

9.2.4 When switching the task from one task station to another, the current display configuration should be maintained.

9.3 Mode and status awareness

9.3.1 The operational mode in use should be clearly indicated to the bridge team and pilot.

9.3.2 If the mode in use is not the normal mode, to fully perform the functions required for the INS, this should be clearly indicated.

Example of modes other than the normal mode are:

- degraded condition modes, in which the INS cannot fully perform all functions
- “service modes”
- simulation mode
- training (familiarization) mode
- other modes, in which the INS cannot be used for navigation.

9.3.3 If the system is in a degraded condition this should be sufficiently clear that the bridge team and pilot can understand the nature of the failure and its consequences.

9.3.4 The INS should indicate the operational status of automated functions and integrated components, systems and/or subsystems.

9.4 Information display

9.4.1 It should be possible to display the complete system configuration, the available configuration and the configuration in use.

9.4.2 The INS should provide the means to display the type of data, source and availability.

9.4.3 The INS should provide the means to display the type of function and availability.

9.4.4 The INS should provide the means to display the device identification and its availability.

9.4.5 Ships and system related parameters and settings should be displayed on demand.

10 Human Machine Interface

10.1 General

10.1.1 For the design and layout of human machine interface (HMI) of the INS, MSC/Circ.982 and relevant guidance on application of SOLAS regulation V/15 adopted by the Organization should be taken into account.

10.1.2 Integrated graphical and alphanumeric display and control functions should adopt a consistent human machine interface (HMI) philosophy and implementation.

10.1.3 The design and implementation of the INS should ensure that it is simple to operate by a trained user.

10.2 System Design

10.2.1 The design of the system should facilitate the tasks to be performed by the bridge team and pilot in navigating the ship safely under all operational conditions.

10.2.2 The configuration of the equipment and presentation of information at workstations should permit observation or monitoring by the bridge team and pilot under all operating conditions.

10.2.3 The design of the system should avoid the potential single point failure by one person during operation, and should minimize the risk of human error.

10.2.4 The operation of the system should be designed to avoid distraction from the task of safe navigation.

10.3 Display

10.3.1 Information should be presented consistently within and between different sub-systems. Standardized information presentation, symbols and coding should be used according to resolution MSC.191(79).

10.4 Input

10.4.1 The INS should be so designed that the requested manual inputs are consistent throughout the system and can be easily executed.

10.4.2 The INS should be designed that the basic functions can be easily operated.

10.4.3 Complex or error-prone interaction with the system should be avoided.

10.4.4 For manual inputs that may cause unintended results, the INS should request confirmation before acceptance, thus providing a plausibility check.

10.4.5 Checks in the dialogue and in the input handling should be provided to prevent erroneous data or control inputs.

10.4.6 Wherever possible, an “undo” function should be provided.

11 INS Back-up requirements and redundancies

11.1 General

11.1.1 Adequate back-up arrangements should be provided to ensure safe navigation in case of a failure within the INS.

11.1.1.1 In case of failure of one part or function of the INS, including network failures, it should be possible to operate each other individual part or function separately; at least the requirements specified for individual equipment adopted by the Organization should be met, as far as applicable.

11.1.1.2 The back-up arrangement should enable a safe take-over of the INS functions and ensure that an INS failure does not result in a critical situation.

11.1.2 The failure of a single task station should not result in the loss of a function mandated by the carriage requirements of SOLAS.

11.1.3 In case of a breakdown of one task station, at least one task station should be able to take over the tasks.

11.1.4 The failure or loss of one hardware component of the INS should not result in the loss of any one of the INS tasks:

- Route planning
- Route monitoring
- Collision avoidance
- Navigation control data
- Status and data display
- Alert management.

Where track control is an INS function, this would not require the duplication of heading control or autopilot.

11.1.5 The INS should allow that the back-up component automatically (if possible) takes over the operation of the primary component.

11.2 Hardware Redundancies

11.2.1 Required navigational sensor/source back-up

For the following sensors/sources of an INS, an approved back-up should be available for the INS:

- electronic position fixing
- heading measurement
- speed measurement
- radar
- chart database.

12 System failures and fallback arrangement

12.1 The INS should, after a failure, and when the back-up activation is not successful support the availability of essential information and functions through the use of appropriate fallback arrangements (see 12.7).

12.2 Restored operation

Normal operation, after use of a fallback arrangement, should only be restored upon confirmation by the operator.

12.3 Failure or change of sensor

12.3.1 The failure or change of a sensor should not result in sudden changes of control commands or loss of manoeuvring control. This may be accomplished by appropriate integrity checks using the information from several sources.

12.3.2 In case of a sensor or source failure, the system should provide an alert and indicate (an) alternative sensor(s) or source(s), as available.

12.3.3 If sensors or sources are not able to provide necessary ship status or navigation data for automatic control functions, a dead reckoning procedure should provide the missing information, as far as practicable.

12.4 Storage of system related parameters

All system related parameters and settings should be stored in a protected way for reconfiguration of the INS.

12.5 The automatic response to malfunctions should result in the safest possible configuration accompanied by an alert.

12.6 Alert management

12.6.1 System failures should be alerted according to the requirements described in Module C.

12.6.2 Loss of system communication between the alert management and the navigational systems and sensors should be indicated as a warning at the central alert management HMI.

12.6.3 A system failure of the alert management or the loss of system communication between the alert management and the navigational functions, sources and/or sensors, should not lead to the loss of the alert announcement functionality of the individual navigational functions, sources/sensors.

12.7 Fallback for navigational information failure

12.7.1 In the event of failures of navigational information and to maintain minimum basic operation,

- there should be a permanent indication of the failed input information and the fallback activated,
- the respective actions of the alert management should be activated, and
- the fallback arrangements listed below should be provided.

12.7.2 Route monitoring

12.7.2.1 Failure of heading information (Azimuth Stabilization)

The INS should display own ship's position and over-ground-motion vector in the chart and not the ship's heading line.

12.7.2.2 Failure of course and speed over ground information

The INS should display own ship's position and heading line.

12.7.3 Collision avoidance

In the case of failure of:

- Heading information
- Speed through the water information
- Course and speed over ground information
- Position input information
- Radar video input information
- AIS input information,

the INS should operate as defined in the operational Module B4 of the proposed modular structure for radar performance standards as set out in appendix 3.

12.7.4 Heading/Track control

The requirements for the applicable control function as specified in the individual performance standards should apply.

13 Technical requirements

13.1 General

13.1.1 In addition to meeting the relevant requirements of resolution A.694(17)*, the INS should comply with the requirements of these performance standards.

13.1.2 Means should be provided to monitor and to display hardware malfunctions of the INS. Alerts should be provided in case of malfunctions.

13.2 Requirements for hardware and/or processors

13.2.1 Sensor

13.2.1.1 A sensor or part thereof is not part of the INS, if it only supplies raw data.

13.2.1.2 Processing of raw data from sensors may be part of the INS.

13.2.1.3 In case sources perform functions of the INS these functions and interfaces should conform with the relevant parts of these performance standards.

13.2.2 Actuator and controller

An actuator, controller or part thereof is not part of the INS, if it only receives data or commands and does not perform other functions of the INS as required by these standard.

13.3 Requirements for software

13.3.1 The operational software should fulfil the requirements of the relevant international standards related to maritime navigation and communication equipment.

13.4 Requirements for power supply

13.4.1 Power supply requirements applying to parts of the INS as a result of other IMO requirements should remain applicable.

13.4.2 The INS including the sensors for position, speed, heading and depth should be supplied:

- .1 from both the main and the emergency source of electrical power with automated changeover through a local distribution board with provision to preclude inadvertent shutdown; and
- .2 from a transitional source of electrical power for a duration of not less than 45 s.

* Refer to publication IEC 60945.

13.5 Power interruptions and shutdown

13.5.1 After a power interruption full functionality of the INS should be available after recovery of all subsystems. The INS should not increase the recovery time of individual subsystem functions after power restoration.

13.5.2 If subjected to a power interruption the INS should, upon restoration of power, maintain the configuration in use and continue automated operation, as far as practicable. Automatic control functions should only be restored upon confirmation by the operator.

13.6 Communication protocols

13.6.1 Standardized and approved communication protocols for interfaces should be used where possible*.

13.7 Installation

13.7.1 The INS should be installed so that it can meet the requirements of the relevant International Standards.

13.7.2 The INS should be installed taking into account the guidelines in MSC/Circ.982 and relevant guidance on application of SOLAS regulation V/15, adopted by the Organization.

Module C – Alert management

14 Purpose

14.1 The purpose of the alert management is to enhance the handling, distribution and presentation of alerts within an INS.

15 Scope

15.1 To enhance the safety of navigation these performance standards provide requirements for the treatment of alerts within an INS and its associated individual operational/functional-modules and sensor/source-modules.

15.2 The alert management harmonizes the priority, classification, handling, distribution and presentation of alerts, to enable the bridge team to devote full attention to the safe navigation of the ship and to immediately identify any abnormal situation requiring action to maintain the safe navigation of the ship.

15.3 These performance standards specify a central alert management HMI to support the bridge team in the immediate identification of any abnormal situation, of the source and reason for the abnormal situation and support the bridge team in its decisions for the necessary actions to be taken.

* Refer to publication IEC 61162.

15.4 The alert management architecture and the acknowledgement concept specified, avoid unnecessary distraction of the bridge team by redundant and superfluous audible and visual alarm announcements and reduces the cognitive load on the operator by minimizing the information presented to which is necessary to assess the situation.

15.5 The alert management should support the proper application of SOLAS regulation V/15.

15.6 The architecture of the module of the performance standards is kept extendable to allow to include further alerts on the bridge and the development of performance standards for a bridge alert management.

16 Application

16.1 These performance standards are applicable to any navigational aid within an INS and its associated individual operational/functional-modules and sensor/source-modules.

16.2 In addition to meeting the requirements of these performance standards the INS alert management should comply with the relevant requirements of the Organization³.

16.3 The general principles of these standards as described in paragraphs 19 and 20 of these performance standards should apply to all alerts presented on the bridge, as far as practicable.

17 Definitions

For the purpose of these standards the definitions in Appendix 1 apply.

18 General requirements

18.1 The alert management should provide:

- the means used to draw the attention of the bridge team to the existence of abnormal situations,
- the means to enable the bridge team to identify and address that condition,
- the means for the bridge team and pilot to assess the urgency of different abnormal situations in cases where more than one abnormal situation has to be handled,
- the means to enable the bridge team to handle alert announcements, and
- the means to manage all alert related states in a distributed system structure in consistent manner.

18.2 If practicable, there should be not more than one alert for one situation that requires attention.

18.3 The alert management should as a minimum be able to handle all alerts required by performance standards adopted by the Organization for navigational equipment comprised by the INS or connected to the INS. The alert management should have the capability to handle all other alerts of navigational equipment comprised by the INS or connected to the INS in identical manner and should incorporate all alerts that are critical to the safety of navigation.

³ MSC.128(75), MSC.191(79).

18.4 The logical architecture of the alert management and the handling concept for alerts should provide the capability to minimize the number of alerts especially those on a high priority level (e.g. using system knowledge from redundancy concepts inside INS and evaluating inherent necessities for alerts against navigational situations, operational modes or activated navigational functions).

18.5 It should be possible to provide the central alert management HMI at least on the navigating and manoeuvring workstation and allowing the handling by the bridge team.

18.6 The audible announcement of alerts should enhance the guidance of the bridge team to the task stations or displays which are directly assigned to the function generating the alert and presenting the cause of the announcement and related information for decision support, e.g., dangerous target alarms should appear and have to be acknowledged at the workstation where the collision avoidance function is provided.

18.7 As alerts can be displayed at several locations, the system should be consistent as far as practicable with respect to how alerts are displayed, silenced and acknowledged at any one task station of the INS.

19 Priorities and categories

19.1 Priorities of alerts

19.1.1 The alert management should distinguish between the three priorities listed:

- Alarms
- Warnings and
- Cautions

19.1.2 Alarms should indicate conditions requiring immediate attention and action by the bridge team.

19.1.3 Warnings should indicate changed conditions and should be presented for precautionary reasons which are not immediately hazardous but which may become so, if no action is taken.

19.1.4 Cautions should indicate a condition which does not warrant an alarm or warning condition, but still requires attention and out of the ordinary consideration of the situation or of given information.

19.1.5 Alerts additional to the alerts required by the organization should be assigned to an priority level using the criteria for classification.

19.2 Criteria for classification of alerts

19.2.1 Criteria for classification of alarms:

- conditions requiring immediate attention and action by the bridge team to avoid any kind of hazardous situation and to maintain the safe navigation of the ship
- or escalation required as alarm from a not acknowledged warning.

19.2.2 Criteria for classification of warnings:

- Conditions or situations which require immediate attention for precautionary reasons, to make the bridge team aware of conditions which are not immediately hazardous, but may become so.

19.2.3 Criteria for classification of cautions:

- awareness of a condition which still requires attention out of the ordinary consideration of the situation or of given information.

19.3 Categories of alerts

19.3.1 Alerts should be separated for the alert handling in INS into two categories of alerts:

19.3.1.1 Category A alerts

Category A alerts are specified as alerts where graphical e.g. radar, ECDIS, information at the task station directly assigned to the function generating the alert is necessary, as decision support for the evaluation the alert related condition.

Category A alerts should include alerts indicating:

- danger of collision
- danger of grounding.

19.3.1.2 Category B alerts

Category B alerts are specified as alerts where no additional information for decision support is necessary besides the information which can be presented at the central alert management HMI. Category B alerts are all alerts not falling under Category A.

19.4 A classification in priorities and categories of alerts for INS and for alerts of the individual performance standards is attached as Appendix 5.

20 State of alerts

20.1 General

20.1.1 The presentation of alarms and warnings is defined in the performance standards for presentation of navigation-related information on shipborne navigational displays (resolution MSC.191(79)).

20.1.2 The state of an alert should be unambiguous for the alert management, the INS and all associated operational and sensor/source displays.

20.2 Alarms

20.2.1 The alert management should distinguish between different announcement states of each individual alarm:

- unacknowledged alarm
- acknowledged alarm.

20.2.2 When an alarm condition is detected, it should be indicated as unacknowledged alarm:

- (a) initiate an audible signal, accompanied by the visual alarm announcement;
- (b) provide a message of sufficient detail to enable the bridge team to identify and address the alarm condition;
- (c) may be accompanied by speech output presented at least in English.

20.2.3 An unacknowledged alarm should be clearly distinguishable from those existing and already acknowledged. Unacknowledged alarms should be indicated flashing and by an audible signal.

20.2.4 The characteristics of the audible alarm signal, whether used singly or in combination with speech, should be such that there is no possibility of mistaking it for the audible signal used for a warning.

20.2.5 It should be possible to temporarily silence alarms. If an alarm is not acknowledged within 30 s the audible signal should start again or as specified in the equipment performance standards.

20.2.6 The audible signal, if not temporarily silenced, and the visual signal for an unacknowledged alarm should continue until the alarm is acknowledged, except specified otherwise in the equipment performance standards.

20.2.7 An acknowledged alarm should be indicated by a steady visual indication.

20.2.8 The visual signal for an acknowledged alarm should continue until the alarm condition is rectified.

20.3 Warnings

20.3.1 The alert management should distinguish between different announcement states of each individual warning:

- unacknowledged warning
- acknowledged warning.

20.3.2 When a warning condition is detected, it should be indicated as unacknowledged warning:

- (a) initiate a momentarily audible signal, accompanied by the visual warning announcement;
- (b) provide a message of sufficient detail to enable the bridge team to identify and address the warning condition;
- (c) may be accompanied by speech output presented at least in English.

20.3.3 An unacknowledged warning should be clearly distinguishable from those existing and already acknowledged. Unacknowledged warnings should be indicated by a flashing and by an audible signal.

20.3.4 When a warning occurs a momentarily audible signal should be given. The characteristics of the audible warning signal, whether used singly or in combination with speech, should be such that there is no possibility of mistaking it for the audible signal used for an alarm.

20.3.5 The visualization for an unacknowledged warning should continue until the warning is acknowledged, except specified otherwise in the equipment performance standards.

20.3.6 An acknowledged warning should be indicated by a steady visual indication.

20.3.7 The visual signal for an acknowledged warning should continue until the warning condition is rectified.

20.4 Cautions

20.4.1 A caution should be indicated by a steady visual indication. No acknowledgement should be necessary for a caution.

20.4.2 A caution should be automatically removed after the condition is rectified.

20.4.3 A message should be provided of sufficient detail to enable the bridge team to identify and address the caution condition.

20.5 Alert escalation

20.5.1 After a time defined by the user unless otherwise specified by the organization, an unacknowledged alarm should be transferred to the bridge navigational watch alarm system (BNWAS), if available. The unacknowledged alarm should remain visible and audible.

20.5.2 An unacknowledged warning should be changed to alarm priority, as required by specific requirements for the individual equipment or after 60 s unless otherwise set by the user.

20.5.3 The alert escalation should be in compliance with the alert escalation requirements of the individual performance standards.

21 Consistent presentation of alerts within the INS

21.1 To ensure a consistent presentation of alerts and the presentation of a reduced number of high priority alerts within the INS:

- .1 the alerts released by navigational functions, sensors, sources should be presented as far as practicable, after evaluation with the system knowledge of the INS, to reduce the number of high priority alerts;
- .2 the priority of the alert is to be defined in compliance with the relevant paragraphs of this performance standards;
- .3 the priority of any alert should be assigned and presented consistently for all parts of the INS;
- .4 the alert releasing sensor/source or function (system) should provide the alert related information of the alert message for explanation and decision support, including information for user support in respect to the alert messages, as far as possible;
- .5 if additional information regarding decision support and user guidance is available with the system knowledge of the INS, this information should be made available for the user;
- .6 HMI's presenting alert information should have the capability to present the alert information, provided by the alert releasing sensor/source or function (system) and the information added with system knowledge of the INS.

21.2 The audible announcement of category A alerts should occur at the task stations or displays which are directly assigned to the function generating the alert.

22 Central alert management HMI

22.1 All alerts should be displayed on the central alert management HMI.

22.2 The central alert management HMI should offer the possibility to display category A alerts as "aggregated alerts", *i.e.*, a single visual indication indicates the existence of many alerts on the task station presenting the function, e.g. one alert should indicate the existence of multiple dangerous target alerts existing at the task station for collision avoidance.

22.3 The central alert management HMI should provide the means to announce and indicate alerts to draw the attention of the bridge team.

22.4 The central alert management HMI should have the capability to substitute the audible alert announcement of the individual equipment, except for category A alerts.

22.5 The central alert management HMI should allow to identify alerts, and enable the immediate identification of the alert releasing function or sensor/source.

22.6 The central alert management HMI should be designed that alert messages of the different priorities are clearly distinguishable from each other.

22.7 The alert messages should be completed with aids for decision making, as far as practicable. An explanation or justification of an alert should be available on request.

22.8 The central alert management HMI should enable an immediate acknowledgement of the alarms and warnings by a single operator action, except for category A.

22.9 The central alert management HMI should be able to display at least 20 recent incidents/faults at the same time.

22.10 If the central alert management HMI is such that it can not contain all active messages requiring the bridge team's attention, then there should be a clear and unambiguous indication that there are additional active messages requiring attention.

22.11 It should be possible to display the additional active messages by a single operator action.

22.12 It should be possible to return to the display containing the highest priority alerts by a single operator action.

22.13 Silencing of audible alerts

22.13.1 It should be possible to temporarily silence all audible alerts at the central alert management HMI.

22.13.2 The audible signal should be reactivated, if the alert has not been acknowledged within the specified times in paragraph 20 for alarms and warnings.

22.14 Category B Alert history list

22.14.1 An operator accessible alert history list should be provided by the central alert management HMI.

22.14.2 When a category B alert is no longer active the message should be kept with its entire content in an alert history list, with the date and time the alert was raised, acknowledged and rectified.

22.14.3 The messages of the alert history list should be displayed in chronological order.

22.14.4 Access to the alert history list and return to the active alert display should be possible by a simple operator action.

22.14.5 The system should provide a clear and unambiguous indication when the alert history list is being accessed and displayed.

22.14.6 The system should revert automatically to the active alert display when it detects a new alert condition.

22.14.7 The central alert management HMI should support the search and identification of alerts in the alert history list.

22.14.8 It should be possible to keep the content of the alert history list at least for 24 h.

23 Acknowledgement and cancellation location

23.1 Acknowledgement

23.1.1 The acknowledgement of alarms and warnings should only be possible at a HMI (task station) where an appropriate situation assessment and decision support can be carried out.

24 Self-monitoring of alert management

24.1 The system communication between the alert management and the systems and sources/sensors initiating the alerts should be monitored.

24.2 Provisions should be made for functional testing of alerts, including the system communication between the alert management and the systems and sources/sensors initiating the alerts.

24.3 The alert management should have the capability to provide alerts for failure and loss of functions (systems), sources and sensors. These should be indicated at the central alert management HMI.

25 Interface requirements for alert related communication

25.1 Connected sources, sensors and systems taking part in the alert related communication should follow a standardized communication concept. Internal alert related communication within an individual source, sensor and equipment may use an alternative communication concept.

25.2 The communication protocol should allow the implementation of the functions described in these standards. In particular, this includes:

25.2.1 Transmission of all relevant alert priorities, states, associated quality information, additional alert message information for, e.g., explanation of alert, decision support.

25.2.2 Transmission of alert source identity so that originator component and/or function can be determined, as well as it being possible to differentiate between alerts originating from the same device but at different time and also between alerts indicating different conditions from the same device at the same time.

25.2.3 Transmission of acknowledgement and silence signals between the device where the alert was silenced or acknowledged and the device where it originates and where it may also have to be silenced/acknowledged.

25.2.4 Transmission mechanisms that avoid that signals in one or the other directions are lost (by fully reliable transmissions or by suitable retransmissions).

25.2.5 Mechanisms that allow consistent reconnection of a component of the INS system to the system after disconnect at any time and in any alert condition.

25.2.6 In general, mechanisms that allows consistency in the complete INS with regards to alert management.

26 Integration of systems in alert management

26.1.1 All systems, sources and sensors incorporated, connected in the INS should be part of the alert management.

26.1.2 The following equipment and systems, if installed, and not incorporated in the INS should be also included in the alert management as far as possible:

- heading information system
- heading/track control system
- electronic position-fixing systems
- speed and distance measuring equipment
- radar with target tracking functions
- ECDIS
- AIS
- echo sounding equipment
- GMDSS equipment
- relevant machinery alarms for early warning.

26.1.3 The following equipment and systems, if installed, should be connected to the alert management:

- bridge navigational watch alarm.

Module D – Documentation requirements

27 Manuals

27.1 Operating manuals should include:

- an overall functional description of the INS
- the redundancy concept and the availability of functions
- a description of possible failures and their effects on the system (e.g. by using part of the failure analysis)
- guidance for the adjustment of the limits for alerts
- the implications of using different reference locations
- details of each data convention and common references: attitude axis, rotation, reference location of CCRP
- details of the integrity monitoring provided by external sensors or subsystems and their required settings

- details of the mechanism for marking valid, doubtful and invalid data
- for an INS providing automatic control functions (e.g. for heading, track or speed) details of the external override and/or bypassing devices used in the reversionary mode.

27.2 The installation manuals should include adequate information to allow the INS to be installed so that it can meet all requirements adopted by the Organization.

27.3 The installation manuals should include the following:

- details of sources, components and the interconnections forming the INS
- details of the interfaces and connections for data import and export and the interconnection diagrams and interfacing details for external parts of the INS and for devices, sensors to be connected
- instructions for the installation and connection of facilities for alert acknowledgement and cancellation including the back-up officer alarm in case of an INS providing automatic control functions (e.g. for heading, track or speed)
- the details of the power supply arrangements
- recommendations on the physical layout of equipment and necessary space for maintenance
- for an INS providing automatic control functions (e.g. for heading, track or speed) details of the installation and connection of external override and/or bypassing devices used in the reversionary mode and if rudder angle, heading, propulsion data – e.g. power, propeller pitch, are not be presented on a display of the INS workstation, the necessary details.

28 Information regarding the system configuration

28.1 Manufacturer or system integrator of INS should declare the following information relating to the system configuration, if applicable:

- basic system configuration
- interconnecting block diagram (Hardware)
- sources identification
- override
- priority of control (task stations)
- data flow schematic diagram and its interpretation
- default conditions
- back-up arrangement
- redundancy arrangement
- explanation of scope to fulfil requirements of SOLAS regulation V/19 with particular INS (for one equipment concept)

other useful materials for inspector (such evidence of fulfilled requirements as other means).

29 Failure analysis

29.1.1 A failure analysis, at INS functional level, should be performed and documented for the INS. The failure analysis should verify that the INS is designed on “fail-to-safe” principle and that failure of one part of the integrated system should not affect the functionality of other parts, except for those functions directly dependent on the defective part.

30 Guidance to equipment manufacturers for the provision of onboard familiarization material

Material enabling onboard familiarization training should be provided for the INS. The onboard familiarization material should explain all configuration, functions, limitations, controls, displays, alerts and indications of the INS. Guidance and recommendations to the equipment manufacturers for the provision of onboard familiarization material are given in Appendix 2.

Appendix 1

DEFINITIONS

Added Value	The functionality and information, which are provided by the INS, in addition to the requirements of the performance standard for the individual equipment.
Alarm	An alarm is the highest priority of an alert. Condition requiring immediate attention and action by the bridge team, to maintain the safe navigation of the ship.
Alert	Alerts are announcing abnormal situations and conditions requiring attention. Alerts are divided in three priorities: alarms, warnings and cautions.
Alert announcements	Visual and acoustical presentation of alerts.
Alert history list	Accessible list of past alerts.
Alert management	Concept for the harmonized regulation of the monitoring, handling, distribution and presentation of alerts on the bridge.
Automatic control functions	Functions that include automatic heading, and/or track and/or speed control or other navigation related automatic control functions.
Category A alerts	Alerts where graphical information at the task station directly assigned to the function generating the alert is necessary, as decision support for the evaluation the alert related condition.
Category B alerts	Alerts where no additional information for decision support is necessary besides the information which can be presented at the central alert management HMI.
Caution	Lowest priority of an alert. Awareness of a condition which does not warrant a alarm or warning condition, but still requires attention out of the ordinary consideration of the situation or of given information.
Collision avoidance	The navigational task of detecting and plotting other ships and objects to avoid collisions.
Consistent common reference system (CCRS)	A sub-system or function of an INS for acquisition, processing, storage, surveillance and distribution of data and information providing identical and obligatory reference to sub-systems and subsequent functions within an INS and to other connected equipment, if available.

Consistent common reference point (CCRP)	The Consistent Common Reference Point (CCRP) is a location on own ship, to which all horizontal measurements such as target range, bearing, relative course, relative speed, closest point of approach (CPA) or time to closest point of approach (TCPA) are referenced, typically the conning position of the bridge.
Degraded condition	Reduction in system functionality resulting from failure.
Essential functions	Indispensable functions to be available as required for the relevant operational use.
Essential information	Indispensable information to be available as required for the relevant functions.
External safety related messages	Data received from outside of the ship concerning the safety of navigation, through equipment listed in SOLAS chapter V and/or NAVTEX.
Failure analysis	The logical, systematic examination of an item, including its diagrams or formulas, to identify and analyse the probability, causes and consequences of potential and real failures.
Human factor	Workload, capabilities and limits of a user trained according to the regulations of the Organization.
Human machine interface (HMI)	The part of a system an operator interacts with. The interface is the aggregate of means by which the users interact with a machine, device, and system (the system). The interface provides means for input, allowing the users to control the system and output, allowing the system to inform the users.
Indication	Display of regular information and conditions, not part of alert management.
Integrated navigation system	An INS is a composite navigation system which performs at least the following tasks: collision avoidance, route monitoring thus providing “added value” for the operator to plan, monitor and safely navigate the progress of the ship. The INS allows meeting the respective parts of SOLAS regulation V/19 and supports the proper application of SOLAS regulation V/15.
Integrity	Ability of the INS to provide the user with information within the specified accuracy in a timely, complete and unambiguous manner, and alerts within a specified time when the system should be used with caution or not at all.

Partial integrations	Smaller integrations which are not covering the tasks “route monitoring” and “collision avoidance”.
Man-over-board mode (MOB)	Display mode for operations and actions of a ship after a Man-over-board accident happened (release of safety equipment, e.g., life buoy and life belt, performance of a return manoeuvre etc.).
Multifunction display	A single visual display unit that can present, either simultaneously or through a series of selectable pages, information from more than a single function of an INS.
Mode awareness	The perception of the mariner regarding the currently active Modes of Control, Operation and Display of the INS including its subsystems, as supported by the presentations and indications at an INS display or workstation.
Navigation control data	Task that provides information for the manual and automatic control of the ship’s movement on a task station.
One equipment concept	The equipment which is recognized as one type of equipment by integrating the function of mandatory equipment of SOLAS of a plural number.
Operational modes	Modes of operation depending on the sea area.
Operational/functional modules	Modules comprising the operational/functional requirements for navigational systems.
Plausibility of data	The quality representing, if data values are within the normal range for the respective type of data.
Route monitoring	The navigational task of continuous surveillance of own ships position in relation to the pre-planned route and the waters.
Safety related automatic functions	Automatic functions that directly impinge on hazards to ship or personnel, e.g., target tracking.
Search and rescue mode	Display mode for operations of a ship involved in search and rescue actions.
Sensor	A navigational aid (measuring device), with or without its own display, processing and control as appropriate, automatically providing information to operational systems or INS.
Sensor/source modules	Modules comprising the sensor/source requirements.

Ship's primary movement	The longitudinal directional, lateral directional and heading-rotational movement of the ship.
Simple operator action	A procedure achieved by no more than two hard-key or soft-key actions, excluding any necessary cursor movements, or voice actuation using programmed codes.
Single operator action	A procedure achieved by no more than one hard-key or soft-key action, excluding any necessary cursor movements, or voice actuation using programmed codes.
Situation awareness	Situation awareness is the mariner's perception of the navigational and technical information provided, the comprehension of their meaning and the projection of their status in the near future, as required for timely reaction to the situation. Situation awareness includes mode awareness.
Source	A device, or location of generated data or information (e.g. chart database), which is part of the INS automatically providing information to INS.
System alerts	Alerts related to equipment failure or loss (system failures).
System integrator	The organization responsible for ensuring that the INS complies with the requirements of this standard.
System position	Position calculated in the INS out of at least two positioning sensors.
Task station	Multifunction display with dedicated controls providing the possibility to display and operate any navigational tasks. A task station is part of a workstation.
Track	Path to be followed over ground.
Track control	Control of the ship movement along a track.
Warning	Condition requiring no-immediate attention or action by the bridge team. Warnings are presented for precautionary reasons to make the bridge team aware of changed conditions which are not immediately hazardous, but may become so, if no action is taken.
Watchdog	System which monitors the software and Hardware well running at regular intervals.
Workstation	The combination of all job-related items, including the console with all devices, equipment and the furniture, to fulfil certain tasks. Workstations for the Bridge are specified in MSC/Circ.982.

Appendix 2

GUIDANCE TO EQUIPMENT MANUFACTURERS FOR THE PROVISION OF ON-BOARD FAMILIARIZATION MATERIAL

1 General

1.1 It is a requirement of the International Safety Management Code (ISM) that personnel working on assignments related to safety and the protection of the environment need to be given proper familiarization with their duties.

1.2 To assist with this process it is required that the INS equipment manufacturer or system integrator provides suitable training material that may be used by the ship operator as a basis for onboard familiarization of users.

1.3 The material is intended to be used by bridge officers who have had generic training in the use of INS through attending shore-based instruction based on the Organization's Model Course 1.32 "Operational use of Integrated Bridge Systems including Integrated Navigation Systems".

1.4 The intention of the familiarization material is that it should give a rapid means of understanding the configuration of the INS and its method of operation. General concepts concerning the use of INS are not required to be part of the material, as these would unnecessarily increase the duration of the familiarization training.

1.5 The material should be organized such that it represents the actual equipment and configuration that is fitted to the ship.

2 On-board familiarization training for INS

2.1 The aim of familiarization training is to explain the configuration, functions, limitations, controls, displays, alerts and indications of the specifically installed INS.

2.2 It should allow an OOW, unfamiliar with the ship's equipment but trained in the generic use of INS, to become rapidly acquainted with the installed system.

2.3 Emphasis should be given on producing effective familiarization training that can be completed in the shortest possible time. This will help maximize the probability that the process will be properly completed.

2.4 For a typical system it may be expected that it will take no longer than 30 minutes for a qualified user to undertake INS familiarization training. This time does not include the time taken to become familiar with major interconnected functionality, such as radar and ECDIS.

2.5 Familiarization can take a number of forms. The following are illustrative examples but other effective methods of training are acceptable:

- computer-based training on the ship. Such training may also be appropriate to be used remotely (e.g., on a notebook computer of a new user, prior to joining the ship)
- a training mode on the fitted INS

- a training video (on tape, disk or solid state memory), supported by a self-training manual
- a stand-alone self-training manual.

2.6 The topics that need to be covered are listed in section 3 below.

2.7 The functions of the INS should be broken down into logical top-down descriptions.

2.8 The familiarization material does not replace the User Instruction Manual. Appropriate references can be made to it from within the material. This may be beneficial when describing more detailed operations or to reference large diagrams.

2.9 For lesser used, non-critical functions it is only necessary to reference the relevant section in the User Instruction Manual, rather than them having to be included in their entirety in the familiarization material. Ideally, material is provided for such functions but with instructions to enable the user to skip these sections, as appropriate, until a more convenient opportunity.

2.10 Familiarization is best given within the context of the ship's normal bridge operating procedures. These procedures are normally contained within the Ship Operating Manual or equivalent document.

3 Familiarization training framework

3.1 General description

3.1.1 This should start with a top-level functionality description including the identification of the types of automatic control that are provided (if any).

3.1.2 A description should be given of the connected equipment that forms the INS, to a level that a normal user would require for operation (not maintenance). This description could be in the form of a block diagram.

3.1.3 The general philosophy of operation should be explained, including a description of the human machine interfaces. If automatic modes of operation are provided a general description of these is also required.

3.1.4 The physical location of all workstations and other displays and controls should be identified.

3.1.5 A description of the CCRS and identification of the CCRS (s) should be given. If more than one point is defined, the intended use of all individual reference points should be given, together with an explanation of how a point is selected and indicated.

3.1.6 For all navigation parameters the manual and/or automatic backup and fall-back sequences when sensors become inoperable should be explained.

3.1.7 Instructions on setting basic display controls such as brightness, contrast, colour and day/night colour schemes should be given.

3.2 Detailed operation (normal conditions)

3.2.1 The functions described should include all systems and subsystems that are part of the INS and any ship's functionality that can be controlled through the INS, such as the:

- navigation subsystems
- steering controls
- propulsion controls

3.2.2 Depending on the type of INS fitted, the following specific information should be given:

- detailed operation of the automatic controls that are included, such as track controller functions
- the method(s) used to switch between operating modes and how to revert to manual operation
- the method of accessing the main/top-level display of all workstations and other INS equipment, including instructions to rapidly revert to such a display from whatever configuration has been set previously
- description of the displayed information on non-controllable displays, (if included within the installed configuration), e.g., a basic conning display
- the route planning and checking functions that are available
- the route monitoring functions that are available
- the operation of the Bridge navigational watch alarm facility, if fitted.

3.2.3 Where appropriate, for each function, the following information should be included:

- function name
- function description
- description of menu structure and displayed information
- description of operator controls
- required manually input information, if any
- description of how to configure task stations and user-modifiable displays and other data to user preferences. The method to rapidly revert to 'sensible' defaults must be given, even if it is considered that user configurations are not essential functions that need to be included as part of the familiarization material
- description of alerts and indicators, including mode indication. Procedural action on receiving alarms and warnings is covered in section 3.3
- the access of latency, integrity and accuracy data.

3.3 Detailed operation (abnormal and emergency conditions)

3.3.1 The following information should be included:

- details of conditions in which any automatic mode should not be used or should be used with certain restrictions or cautions
- identification of major failure alarms and warnings
- procedures involving the INS to follow on encountering alarms and warnings, other major failures, incidents or accidents, including:
 - (i) reversion to a mode with lesser automation or to manual operation
 - (ii) emergency disabling of functions that are causing or worsening the emergency.

Appendix 3

PROPOSED MODULAR STRUCTURE FOR RADAR PERFORMANCE STANDARDS (RESOLUTION MSC.192(79))

Module	Paragraph of MSC.192(79)	Contents
A		Sensor and Technical Requirements
A1		Sensor and Signals
	5.1	Frequency
	5.3.3.1-3	Signal processing
	5.3.4	SARTs and radar beacons
	5.6	Roll and pitch (Detection)
A2		Target detection, discrimination and accuracy
	5.2	Range and bearing accuracy
	5.3	Detection
	5.3.1.1	Detection in clear conditions
	5.3.1.2	Detection at close ranges
	5.3.1.3.1-4	Detection in clutter conditions
	5.4	Minimum range
	5.5	Range and bearing discrimination
A3		Design and Installation
	5.8	Radar availability delay
	5.9.1	CCRP and off-set compensation
	7.1.1 part	Design for maximum availability
	7.1.2	Record operational hours
	7.3	Transmitter mute over preset sector
	7.4	Antenna
	7.5	Radar system installation
B		Operational Requirements
B1		Display and operation
	2 Application	Table 1: Screen size
	5.3.2	Gain and anti-clutter functions
	5.7	(Means for) Radar performance optimization and tuning
	5.9.2-5.9.4	Radar measurements - CCRP
	5.10	Display range scales
	5.11	Fixed rings
	5.12	Variable range markers
	5.13	Bearing scale
	5.14	Heading line
	5.15	EBLs
	5.16	Parallel Index lines
	5.17	Remote measurement of range and bearing
	5.18	User cursor
	5.19	Azimuth stabilization
	5.20	Display mode of the radar picture
	5.21	Off-centring
	5.22	Ground and sea stabilization
	5.23	Target trails and past positions
	5.35	Integrating multiple radars
	7.6.2	Target simulation for training

B2		Target information (tracking and AIS)
	2 Application	Table 1: Screen size
	5.24	Presentation
	5.25	Target (radar) tracking and acquisition
	5.26	AIS reported targets
	5.27	AIS graphical presentation
	5.28	AIS and radar target data
	5.29	Operational alarms
	5.30	AIS and radar target association
	5.31	Trial manoeuvre
B3		Chart and route overlay
	5.32	Display of maps, navigation lines and routes
	5.33	Display of charts
B4		Failure, back-up and fallback arrangements
	5.34.1	Picture freeze alarm
	5.34.2	Signal or sensor failure
	7.1 part	Design to facilitate simple fault diagnosis
	9	Backup and failure arrangement
B5		Ergonomic Criteria
	5.34 para 1	Presentation of alarms
	6.1	Operational controls
	6.2	Display presentation
	7.2	Display device requirements
	7.6.1	(General:) Design for simple use by trained person
C		Interfacing
	8.1	Input data
	8.2	Input data integrity and latency
	8.3	Output data
D		Documentation
	5.3.1.3.5	Degradation in performance
	5.3.3.4	Basic aspects of signal processing
	6.3	Instructions and documentation
	7.1.3	Routine servicing and restricted life components

Appendix 4

PROPOSED MODULAR STRUCTURE FOR TRACK CONTROL PERFORMANCE STANDARDS (RESOLUTION MSC.74(69), ANNEX 2)

Module	Modular structure with paragraphs of track control PS (MSC.74(69))
B	Operational Requirements
B1	Functionality 5 Operational requirements
B2	Operation 6 Ergonomic criteria
B3	Connection to sensors 7.1 Sensors
B4	Failure, back-up and fallback arrangements 8 Fallback arrangements
C	Interfacing 7.2 Status Information 7.3 Standards

Appendix 5

CLASSIFICATION OF ALERTS

For the purpose of transferring requirements for alarms and indications of existing individual performance standards into 3 priority classes of alerts within the INS performance standard, the alarms of the individual performance standards are subdivided into two classes of alarms being alarms and warnings in the INS performance standard.

Table 1: Classification of INS alerts as specified in these performance standards

Source	Cause	Alarm	Warn.	Caut.	Categ. A	Categ. B
INS	System function lost	X				X
	Integrity verification not possible (5.5.5)		X			X
	Invalid information for functions in use (5.3.1.2)		X			X
	Invalid information for functions not in use (5.3.1.2)			X		X
	Different thresholds entered (5.4.3.3)			X		X
	Loss of system communication (12.6.2)		X			X

Table 2: Classification for INS for alerts specified in the individual equipment performance standards

Source	Cause	Alarm	Warn.	Caut.	Categ. A	Categ. B
Heading control systems	Failure or reduction in power supply	X				X
	Off heading alarm		X		X	
	Heading monitor (deviation from second heading source)		X			X
Track Control systems	Early course change indication (track control via waypoints)		X		X	
	Actual course change indication		X		X	
	Wheel over line (actual course change indication not acknowledged) 1) alarm 2) back-up navigator alarm	X			X	
	Failure or reduction in power supply		X			X
	Position monitor		X		X	
	Heading monitor		X		X	
	Sensor failure (heading, position, speed) 1) alarm 2) back-up navigator alarm	X				X
	Cross-track alarm	X			X	
	Course difference (heading deviates from track course)		X		X	
Low speed alarm		X			X	
ECDIS	Positioning system failure		X			X
	Crossing safety contour	X			X	
	Deviation from planned route – off-track alarm	X			X	
	Area with special conditions – cross the boundary		X*	X*	X	
	Approach to critical point		X		X	
	Different geodetic datum		X			X
	System malfunction (system malfunction of backup device)		X			X
RADAR/AIS	Target capacity		X		X	
	CPA/TCPA alarm	X			X	
	Acquisition/activation zone		X		X	
	Lost target alarm		X		X	
	Failure of any signal or sensor in use		X			X
GNSS	HDOP exceeded			X		X
	No calculation of position					X
	Loss of position		X			X
	Loss of differential signal		X			X
	Differential corrections not applied		X			X
	Differential integrity status		X			X

Echo sounder	Depth below keel alarm	X			X	
	Failure or reduction in power supply		X			X
Gyro compass	System fault		X			X
Bridge watch alarm	Malfunction		X			X
	Power supply failure		X			X

X* : selected by the user.

Appendix 6

DEFAULT DISPLAY CONFIGURATIONS

As required in paragraph 9.2.1, the INS should offer as basic operational settings the following default display configurations for the tasks route monitoring and collision avoidance.

Task “Route monitoring”

Function	Setting
Display category	ECDIS Standard display
Selected sea area	Around own ship with appropriate off-set
Range	3 nm
Orientation	True motion, north-up
Manual updates	If applied
Operator’s notes	If applied
position sensor	GNSS (system position provided by INS)
Past track	On
Selected route	Last selected route, including route parameters
Look-ahead time	6 min

Task “Collision avoidance”

Function	Setting
Band	X-band, if selectable
Gain and anti-clutter functions	Automatically optimized
Tuning	Automatically optimized
Range	6 nm
Fixed rings	Off
VRMs	One VRM on
EBLs	One EBL on
Parallel index lines	Off or last setting, if applied
Display mode of the radar picture	True motion, north-up
Off-centring	Appropriate look-ahead
Target trails	On
Past positions	Off
Radar target tracking	Continued
Vector mode	Relative
Vector time	6 min
Automatic radar target acquisition	Off
Graphical AIS reported target display	On
Radar and AIS Target fusion	On
Operational alarms (except collision warnings)	Off
Collision warnings	On (limits CPA 2 nm; TCPA 12 min)
Display of maps, navigation lines and routes	Last setting
Display of charts	Off

ANNEX 31

RESOLUTION MSC.253(83)

(adopted on 8 October 2007)

**ADOPTION OF THE PERFORMANCE STANDARDS FOR NAVIGATION LIGHTS,
NAVIGATION LIGHT CONTROLLERS AND ASSOCIATED EQUIPMENT**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee and/or the Marine Environment Protection Committee, as appropriate, on behalf of the Organization,

RECALLING FURTHER Rule 21, Rule 23 and Rule 34(b) of the Convention on the International Regulations for Preventing Collisions at sea (COLREGs), 1972, concerning the requirements on the use of Navigation Lights,

NOTING that that the purpose of Navigation Lights is to identify ships and to notify their intentions at sea and that the purpose of Navigation Light Controllers is to provide means of control and monitoring of the status of navigation lights onboard the vessel to the Officer of the Watch (OOW),

RECOGNIZING the need to develop performance standards for Navigation Lights, Navigation Light Controllers and associated equipment to be fitted onboard vessels in accordance with COLREGs,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Safety of Navigation at its fifty-third session, and the Maritime Safety Committee at its eighty-third session,

1. ADOPTS the Recommendation on Performance Standards for Navigation Lights, Navigation Light Controllers and associated equipment, set out in the annex to the present resolution;
2. RECOMMENDS Governments ensure that Navigation Lights, Navigation Light Controllers and associated equipment installed on or after 1 January 2009 conform to performance standards not inferior to those specified in the annex to the present resolution.

ANNEX

PERFORMANCE STANDARDS FOR NAVIGATION LIGHTS, NAVIGATION LIGHT CONTROLLERS AND ASSOCIATED EQUIPMENT

1 Scope

These performance standards apply to Navigation Lights (NLs), Navigation Light Controllers (NLCs) and associated equipment to be fitted onboard vessels in accordance with COLREGs. These equipment should be designed, tested, installed and maintained based on these standards, taking into account that the purpose of Navigation Lights is to identify ships and to notify their intentions at sea and that the purpose of a Navigation Lights Controller is to provide means of control and monitoring of the status of navigation lights onboard the vessel to the Officer of the Watch (OOW).

2 Application

In addition to the general requirements set out in resolution A.694(17)¹, navigation lights, navigation lights controllers and associated equipment should meet the requirements of these standards.

3 Definitions

3.1 *Associated equipment* means equipment necessary for the operation of NLs and NLCs.

3.2 *COLREGs* means Convention on the International Regulations for Preventing Collisions at Sea, 1972, including their annexes.

3.3 *Lamp* means a source producing light, including incandescent sources, Light Emitting Diodes (LED) and other non-incandescent sources.

3.4 *Length* means the length overall.

3.5 *Navigation Light (NL)* means the following lights:

- .1 masthead light, sidelights, sternlight, towing light, all-round light, flashing light as defined in Rule 21 of COLREGs;
- .2 all-round flashing yellow light required for air-cushion vessels by Rule 23 of COLREGs; and
- .3 manoeuvring light required by Rule 34(b) of COLREGs.

The light source includes lamps, its housing, placing and means for delimiting the angle of lighting.

¹ Refer to publication IEC 60945.

3.6 *Navigation Light Controller (NLC)* means a device enabling operational control of a Navigation Light.

3.7 *SOLAS* means the International Convention for the Safety of Life at Sea, 1974, as amended.

4 Navigation Lights

4.1 General

4.1.1 Unless expressly required otherwise, NLs should appear steady and non-flashing.

4.1.2 Lenses of NLs should be produced in a robust, non-corroding material, which should ensure a long-term durability for the optical qualities of the lens.

4.1.3 A masthead light, sidelights and a sternlight installed on board a ship not less than 50 m in length should be duplicated or be fitted with duplicate lamps.

4.1.4 Only lamps specified by the manufacturer should be used in each particular NL to avoid reduction of NL's performance due to unsuitable lamps.

4.1.5 A sufficient number of spare lamps for NLs should be carried onboard, taking into account the duplication of NLs or lamps, as appropriate.

4.2 Luminous intensity distribution

4.2.1 In the horizontal directions where decrease of luminous intensity to "practical cut-off" is required by section 9 of Annex I to COLREGs, the luminous intensity should be no more than 10% of the average luminous intensity within the prescribed sector for vessels not less than 12 m in length.

4.2.2 Within the prescribed sector in which the minimum luminous intensity is required by section 9 of Annex I to COLREGs, the horizontal intensity distribution of the light should be uniform in such a way that the measured minimum and maximum luminous intensity values (in candelas) do not differ by more than a factor of 1.5, to avoid luminous intensity changes which may result in the appearance of a flashing light for vessels not less than 12 m in length.

4.2.3 Within the prescribed sector in which the minimum luminous intensity is required by section 10 of Annex I to COLREGs, the vertical intensity distribution of the light should be uniform in such a way that the measured minimum and maximum luminous intensity values (in candelas) do not differ by more than a factor of 1.5, to avoid luminous intensity changes which may result in the appearance of a flashing light for vessels not less than 12 m in length.

4.3 Special requirements for lights using LEDs

The luminous intensity of LEDs gradually decreases while the electricity consumption remains unchanged. The rate of decrease of luminous intensity depends on the output of LEDs and temperatures of LEDs. To prevent shortage of luminous intensity of LEDs:

.1 An alarm function should be activated to notify the Officer of the Watch that the luminous intensity of the light reduces below the level required by COLREGs;

or

.2 LEDs should only be used within the lifespan (practical term of validity) specified by the manufacturer to maintain the necessary luminous intensity of LEDs. The lifespan of LEDs should be determined and clearly notified by the manufacturer based on the appropriate test results on the decrease of luminous intensity of the LEDs under various temperature conditions and on the temperature condition of LEDs in the light during operation, taking the appropriate margin into account.

5 Navigation Light Controller

5.1 An NLC should facilitate ON/OFF controls of individual NLs.

5.2 An NLC should provide visual indications of “ON”/“OFF” status of NLs.

5.3 Pre-programmed NL group settings may be provided.

5.4 An NLC on board a ship not less than 50 m in length should provide the alarm for:

.1 failure of power supply to NLs; and

.2 failure, including short circuit, of a lamp which is switched ON.

5.5 An NLC on board a ship not less than 50 m in length should present the status of all NLs in a logical presentation, meeting the requirements set out in resolution MSC.191(79), *e.g.*, by symbol marks on a display.

5.6 All indicators of an NLC should be dimmable to ensure easy reading without disturbing the night vision of the Officer of the Watch. The brightness of a display, if fitted, of an NLC should be controllable.

5.7 An NLC should support the use of standardized serial interfaces for marine navigation and communication systems².

5.8 The NLC should have a bi-directional interface to transfer alarms to external systems and receive acknowledgements of alarms from external systems. The interface should comply with the relevant international standards².

6 Power supply and fallback arrangements

6.1 Each NL should be connected, via separate circuits, to a NLC located on the bridge in order to avoid any NL failure, including short circuit, that affect any other NLs connected to the NLC. A NLC may only be additionally connected to special signal lights such as lights required by canal authorities.

² Refer to IEC 61162 series.

6.2 It should be possible to operate the NLC and NLs when supplied by an emergency source of electrical power in accordance with the appropriate requirements of chapter II-1 of the 1974 SOLAS Convention, as amended.

6.3 Automatic switch over to the alternative source of power is permitted.

7 Associated equipment

Screens for sidelight may be a part of a ship's structure. All associated equipment should be produced in a robust, non-corroding material, which should ensure a long-term durability for the relevant operation.

8 Marking

Each NL should be marked with:

- .1 the manufacturers name or symbol, and designation of type;
- .2 the type/category of the NL in accordance with COLREGs;
- .3 serial and certificate number;
- .4 head line directions;
- .5 range in nautical miles; and
- .6 nominal wattage of the light source in watts, if different values lead to different ranges.

9 Installation of navigation lights and associated equipment

In addition to the relevant requirements of COLREGs, the installation of NLs and associated equipment should comply with the following requirements:

- .1 The manufacturer of NLs should provide guidance on the installation of NLs and the design and installation of screens for sidelights, as required by COLREGs;
- .2 NLs should be installed in such a way so as to prevent navigation watch keeping personnel from direct or reflected undue glare;
- .3 NLs should be installed in such way as to ensure that the light shows over the required arcs of visibility, and should satisfy the required vertical separation and location requirements in all normal operating trim conditions; and
- .4 Equipment for operation of the manoeuvring light, mounted in accordance with COLREGs, should be located at conning position. The equipment may be located near the steering wheel or the autopilot/track control.

10 Maintenance

10.1 NLs should be so designed that the lamp specified by the manufacturer can be efficiently and readily replaced, without elaborate recalibration or readjustment.

10.2 NLs, NLCs and associated equipment should be so constructed and installed, as necessary, that they are readily accessible for inspection and maintenance purposes.

ANNEX 33

**DRAFT MSC RESOLUTION ON THE
CODE OF THE INTERNATIONAL STANDARDS AND RECOMMENDED
PRACTICES FOR A SAFETY INVESTIGATION INTO A MARINE CASUALTY
OR MARINE INCIDENT (CASUALTY INVESTIGATION CODE)**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the function of the Committee,

NOTING with concern that, despite the best endeavours of the Organization, casualties and incidents resulting in loss of life, loss of ships and pollution of the marine environment continue to occur,

NOTING ALSO that the safety of seafarers and passengers and the protection of the marine environment can be enhanced by timely and accurate reports identifying the circumstances and causes of marine casualties and incidents,

NOTING FURTHER the importance of the United Nations Convention on the Law of the Sea, done at Montego Bay on 10 December 1982, and of the customary international law of the sea,

NOTING IN ADDITION the responsibilities of flag States under the provisions of the International Convention for the Safety of Life at Sea, 1974 (regulation I/21) (hereinafter referred to as the Convention), the International Convention on Load Lines, 1966 (article 23) and the International Convention for the Prevention of Pollution from Ships, 1973 (article 12), to conduct casualty investigations and to supply the Organization with relevant findings,

CONSIDERING the need to ensure that all very serious marine casualties are investigated,

CONSIDERING ALSO the Guidelines on fair treatment of seafarers in the event of maritime accident (resolution A.987(24)),

ACKNOWLEDGING that the investigation and proper analysis of marine casualties and incidents can lead to greater awareness of casualty causation and result in remedial measures, including better training, for the purpose of enhancing safety of life at sea and protection of the marine environment,

RECOGNIZING the need for a code to provide, as far as national laws allow, a standard approach to marine casualty and incident investigation with the objective of preventing marine casualties and incidents in the future,

RECOGNIZING ALSO the international nature of shipping and the need for co-operation between Governments having a substantial interest in a marine casualty or incident for the purpose of determining the circumstances and causes thereof,

NOTING resolution MSC....(...) by which it adopted amendments to chapter XI-1 of the Convention to make parts I and II of the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) mandatory under the Convention,

HAVING CONSIDERED, at its [eighty-fourth] session, the text of the proposed Casualty Investigation Code,

1. ADOPTS the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code), set out in the Annex to the present resolution;
2. INVITES Contracting Governments to the SOLAS Convention to note that the Code will take effect on upon entry into force of the amendments to the SOLAS Convention;
3. REQUESTS the Secretary-General of the Organization to transmit certified copies of the present resolution and the text of the Code contained in the Annex to all Contracting Governments to the SOLAS Convention;
4. FURTHER REQUESTS the Secretary-General of the Organization to transmit copies of the present resolution and the text of the Code contained in the Annex to all Members of the Organization which are not Contracting Governments to the SOLAS Convention;
5. SUPERSEDES resolution A.849(20).

ANNEX

**CODE OF THE INTERNATIONAL STANDARDS AND RECOMMENDED
PRACTICES FOR A SAFETY INVESTIGATION INTO A MARINE CASUALTY
OR MARINE INCIDENT (CASUALTY INVESTIGATION CODE)**

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International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident

Foreword

1 This Code incorporates and builds on the best practices in Marine Casualty and Marine Incident investigation that were established by the Code for the Investigation of Marine Casualties and Incidents, adopted in November 1997 by the International Maritime Organization (the Organization), by resolution A.849(20). The Code for the Investigation of Marine Casualties and Incidents sought to promote co-operation and a common approach to Marine Casualty and Marine Incident investigations between States.

Background

2 The Organization has encouraged co-operation and recognition of mutual interest through a number of resolutions. The first was resolution A.173(ES.IV) (Participation in Official Inquiries into Maritime Casualties) adopted in November 1968. Other resolutions followed including: resolution A.322 (The Conduct of Investigations into Casualties) adopted in November in 1975; resolution A.440(XI) (Exchange of Information for Investigations into Marine Casualties) and resolution A.442(XI) (Personnel and Material Resource Needs of Administrations for the Investigation of Casualties and the Contravention of Conventions), both adopted in November 1979; resolution A.637(16) (Co-operation in Maritime Casualty Investigations) adopted in 1989.

3 These individual resolutions were amalgamated and expanded by the Organization with the adoption of the Code for the Investigation of Marine Casualties and Incidents. Resolution A.884(21) (Amendments to the Code for the Investigation of Marine Casualties and Incidents resolution A.849(20)) adopted in November 1999, enhanced the Code by providing guidelines for the investigation of human factors.

4 The International Convention for the Safety of Life at Sea (SOLAS), 1948, included a provision requiring flag State Administrations to conduct investigations into any casualty suffered by a ship of its flag if an investigation may assist in identifying regulatory issues as a contributing factor. This provision was retained in the 1960 and 1974 SOLAS Conventions. It was also included in the International Convention on Load Lines, 1966. Further, flag States are required to inquire into certain Marine Casualties and Marine Incidents occurring on the High Seas¹.

5 The sovereignty of a coastal State extends beyond its land and Inland Waters to the extent of its Territorial Sea². This jurisdiction gives the coastal State an inherent right to investigate Marine Casualties and Marine Incidents connected with its territory. Most national Administrations have legal provisions to cover the investigation of a shipping incident within its Inland Waters and Territorial Sea, regardless of the flag.

¹ Reference is made to the United Nations Convention on the Law of the Sea (UNCLOS), article 94(7).

² Reference is made to the United Nations Convention on the Law of the Sea (UNCLOS), article 2.

Treatment of Seafarers

6 Most recently, the International Labour Organization's Maritime Labour Convention, 2006 (which has not yet come into force), provides a provision for the investigation of some Serious Marine Casualties as well as setting out working conditions for seafarers. Recognizing the need for special protection for seafarers during an investigation, the Organization adopted, in December 2005, the "Guidelines on Fair Treatment of Seafarers in the Event of a Maritime Accident" through resolution A.987(24). The Guidelines were promulgated by the IMO and the ILO on 1 July 2006.

Adoption of the Code

7 Since the adoption of the first SOLAS Convention, there have been extensive changes in the structure of the international maritime industry and changes in international law. These changes have potentially increased the number of States with an interest in the process and outcomes of Marine Safety Investigations, in the event of a Marine Casualty or Marine Incident, increasing the potential for jurisdictional and other procedural differences between affected States.

8 This Code, while it specifies some mandatory requirements, recognizes the variations in international and national laws in relation to the investigation of Marine Casualties and Marine Incidents. The Code is designed to facilitate objective Marine Safety Investigations for the benefit of flag States, coastal States, the Organization and the shipping industry in general.

PART I
GENERAL PROVISIONS

Chapter 1

PURPOSE

- 1.1 The objective of this Code is to provide a common approach for States to adopt in the conduct of Marine Safety Investigations into Marine Casualties and Marine Incidents. Marine Safety Investigations do not seek to apportion blame or determine liability. Instead a Marine Safety Investigation, as defined in this Code, is an investigation conducted with the objective of preventing Marine Casualties and Marine Incidents in the future. The Code envisages that this aim will be achieved through States:
- (a) applying consistent methodology and approach, to enable and encourage a broad ranging investigation, where necessary, in the interests of uncovering the Causal Factors and other safety risks; and
 - (b) providing reports to the Organization to enable a wide dissemination of information to assist the international marine industry to address safety issues.
- 1.2 A Marine Safety Investigation should be separate from, and independent of, any other form of investigation. However, it is not the purpose of this Code to preclude any other form of investigation, including investigations for action in civil, criminal and administrative proceedings. Further, it is not the intent of the Code for a State or States conducting a Marine Safety Investigation to refrain from fully reporting on the Causal Factors of a Marine Casualty or Marine Incident because blame or liability, may be inferred from the findings.
- 1.3 This Code recognizes that under the Organization instruments, each flag State has a duty to conduct an investigation into any casualty occurring to any of its ships, when it judges that such an investigation may assist in determining what changes in the present regulations may be desirable, or if such a casualty has produced a major deleterious effect upon the environment. The Code also takes into account that a flag State shall³ cause an inquiry to be held, by or before a suitably qualified person or persons into certain Marine Casualties or Marine Incidents of navigation on the High Seas. However, the Code also recognizes that where a Marine Casualty or Marine Incident occurs within the territory, including the Territorial Sea, of a State, that State has a right⁴ to investigate the cause of any such Marine Casualty or Marine Incident which might pose a risk to life or to the environment, involve the coastal State's search and rescue authorities, or otherwise affect the coastal State.

³ Reference is made to the United Nations Convention on the Law of the Sea (UNCLOS), article 94.

⁴ Reference is made to the United Nations Convention on the Law of the Sea (UNCLOS), article 2.

Chapter 2

DEFINITIONS

When the following terms are used in the Mandatory Standards and Recommended Practices for Marine Safety Investigations they have the following meaning.

AGENT means any person, natural or legal, engaged on behalf of the owner, charterer or operator of a ship, or the owner of the cargo, in providing shipping services, including managing arrangements for the ship being the subject of a Marine Safety Investigation.

CAUSAL FACTOR means actions, omissions, events or conditions, without which:

- (a) the Marine Casualty or Marine Incident would not have occurred; or
- (b) adverse consequences associated with the Marine Casualty or Marine Incident would probably not have occurred or have been as serious;
- (c) another action, omission, event or condition, associated with an outcome in paragraph (a) or (b), would probably not have occurred.

COASTAL STATE means a State in whose territory, including its Territorial Sea, a Marine Casualty or Marine Incident occurs.

EXCLUSIVE ECONOMIC ZONE means the Exclusive Economic Zone as defined by Article 55 of the United Nations Convention on the Law of the Sea.

FLAG STATE means a State whose flag a ship is entitled to fly.

HIGH SEAS means the High Seas as defined in Article 86 of the United Nations Convention on the Law of the Sea.

INTERESTED PARTY means an organization, or individual, who, as determined by the Marine safety Investigating State(s), has significant interests, rights or legitimate expectations with respect to the outcome of a Marine Safety Investigation.

INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE means the International Management Code for the Safe Operation of Ships and for Pollution Prevention as adopted by the Organization by resolution A.741(18), as amended.

MARINE CASUALTY means an event, or a sequence of events, that has resulted in any of the following which has occurred directly in connection with the operations of a ship:

1. the death of, or serious injury to, a person;
2. the loss of a person from a ship;
3. the loss, presumed loss or abandonment of a ship;

4. material damage to a ship;
5. the stranding or disabling of a ship, or the involvement of a ship in a collision;
6. material damage to marine infrastructure external to a ship, that could seriously endanger the safety of the ship, another ship or an individual; or
7. Severe Damage to the Environment, or the potential for Severe Damage to the Environment, brought about by the damage of a ship or ships.

However, a Marine Casualty does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment.

MARINE INCIDENT means an event, or sequence of events, other than a Marine Casualty, which has occurred directly in connection with the operations of a ship that endangered, or, if not corrected, would endanger the safety of the ship, its occupants or any other person or the environment.

However, a Marine Incident does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment.

MARINE SAFETY INVESTIGATION means an investigation or inquiry (however referred to by a State), into a Marine Casualty or Marine Incident, conducted with the objective of preventing Marine Casualties and Marine Incidents in the future. The investigation includes the collection of, and analysis of, evidence, the identification of Causal Factors and the making of safety recommendations as necessary.

MARINE SAFETY INVESTIGATION REPORT means a report that contains:

- (a) a summary outlining the basic facts of the Marine Casualty or Marine Incident and stating whether any deaths, injuries or pollution occurred as a result;
- (b) the identity of the flag State, owners, operators, the company as identified in the safety management certificate, and the classification society (subject to any national laws concerning privacy);
- (c) where relevant the details of the dimensions and engines of any ship involved, together with a description of the crew, work routine and other matters, such as time served on the ship;
- (d) a narrative detailing the circumstances of the Marine Casualty or Marine Incident;
- (e) analysis and comment on the Causal Factors including any mechanical, human and organizational factors;
- (f) a discussion of the Marine Safety Investigation's findings, including the identification of safety issues, and the Marine Safety Investigation's conclusions; and

- (g) where appropriate, recommendations with a view to preventing future Marine Casualties and Marine Incidents.

MARINE SAFETY INVESTIGATION AUTHORITY means an authority in a State, responsible for conducting investigations in accordance with this Code.

MARINE SAFETY INVESTIGATING STATE(S) means the flag State or, where relevant, the State or States that take the responsibility for the conduct of the Marine Safety Investigation as mutually agreed in accordance with this Code.

MARINE SAFETY RECORD means the following types of records collected for a Marine Safety Investigation:

- (a) all statements taken for the purpose of a Marine Safety Investigation;
- (b) all communications between persons pertaining to the operation of the ship;
- (c) all medical or private information regarding persons involved in the Marine Casualty or Marine Incident;
- (d) all records of the analysis of information or evidential material acquired in the course of a Marine Safety Investigation;
- (e) information from the voyage data recorder.

MATERIAL DAMAGE in relation to a Marine Casualty means:

- (1) Damage that:
 - (a) significantly affects the structural integrity, performance or operational characteristics of marine infrastructure or a ship; and
 - (b) requires major repair or replacement of a major component or components.or
- (2) destruction of the marine infrastructure or ship.

SEAFARER means any person who is employed or engaged or works in any capacity on board a ship.

SERIOUS INJURY means an injury which is sustained by a person, resulting in incapacitation where the person is unable to function normally for more than 72 hours, commencing within seven days from the date when the injury was suffered.

SEVERE DAMAGE TO THE ENVIRONMENT means damage to the environment which, as evaluated by the State(s) affected, or the flag State, as appropriate, produces a major deleterious effect upon the environment.

SUBSTANTIALLY INTERESTED STATE means a State:

1. which is the flag State of a ship involved in a Marine Casualty or Marine Incident;
or
2. which is the coastal State involved in a Marine Casualty or Marine Incident; or
3. whose environment was severely or significantly damaged by a Marine Casualty (including the environment of its waters and territories recognized under international law); or
4. where the consequences of a Marine Casualty or Marine Incident caused, or threatened, serious harm to that State or to artificial islands, installations, or structures over which it is entitled to exercise jurisdiction; or
5. where, as a result of a Marine Casualty, nationals of that State lost their lives or received serious injuries; or
6. that has important information at its disposal that the Marine Safety Investigating State(s) consider useful to the investigation; or
7. that for some other reason establishes an interest that is considered significant by the Marine Safety Investigating State(s).

TERRITORIAL SEA means Territorial Sea as defined by Section 2 of Part II of the United Nations Convention on the Law of the Sea.

VERY SERIOUS MARINE CASUALTY means a Marine Casualty involving the total loss of the ship or a death or Severe Damage to the Environment.

Chapter 3

APPLICATION OF CHAPTERS IN PARTS II AND III

- 3.1 Part II of this Code contains Mandatory Standards for Marine Safety Investigations. Some clauses apply only in relation to certain categories of Marine Casualties and are mandatory only for Marine Safety Investigations into those Marine Casualties.
- 3.2 Clauses in part III of this Code may refer to clauses in this part that apply only to certain Marine Casualties. The clauses in part III may recommend that such clauses be applied in Marine Safety Investigations into other Marine Casualties or Marine Incidents.

PART II

MANDATORY STANDARDS

Chapter 4

MARINE SAFETY INVESTIGATION AUTHORITY

- 4.1 The Government of each State must provide the Organization with detailed contact information of the Marine Safety Investigation Authority(ies) carrying out Marine Safety Investigations within their State.

Chapter 5

NOTIFICATION

- 5.1 When a Marine Casualty occurs on the High Seas or in an Exclusive Economic Zone, the flag State of a ship, or ships, involved, shall notify other Substantially Interested States as soon as is reasonably practicable.
- 5.2 When a Marine Casualty occurs within the territory, including the Territorial Sea, of a coastal State, the flag State, and the coastal State, shall notify each other and between them notify other Substantially Interested States as soon as is reasonably practicable.
- 5.3 Notification must not be delayed due to the lack of complete information.
- 5.4 **Format and content:** The notification must contain as much of the following information as is readily available:
- (a) The name of the ship and its flag State;
 - (b) The IMO Number;
 - (c) The nature of the Marine Casualty;
 - (d) The location of the Marine Casualty;
 - (e) Time and date of the Marine Casualty;
 - (f) The number of any seriously injured or killed persons;
 - (g) Consequences of the Marine Casualty to individuals, property and the environment; and
 - (h) The identification of any other ship involved.

Chapter 6

REQUIREMENT TO INVESTIGATE VERY SERIOUS MARINE CASUALTIES

- 6.1 A Marine Safety Investigation shall be conducted into every Very Serious Marine Casualty.
- 6.2 Subject to any agreement in accordance with chapter 7, the flag State of a ship involved in a Very Serious Marine Casualty is responsible for ensuring that a Marine Safety Investigation is conducted and completed in accordance with this Code.

Chapter 7

FLAG STATE'S AGREEMENT WITH ANOTHER SUBSTANTIALLY INTERESTED STATE TO CONDUCT A MARINE SAFETY INVESTIGATION

- 7.1 Without limiting the rights of States to conduct their own separate Marine Safety Investigation, where a Marine Casualty occurs within the territory, including Territorial Sea, of a State, the flag State(s) involved in the Marine Casualty and the coastal State shall consult to seek agreement on which State or States will be the Marine Safety Investigating State(s) in accordance with a requirement, or a recommendation acted upon, to investigate under this Code.
- 7.2 Without limiting the rights of States to conduct their own separate Marine Safety Investigation, if a Marine Casualty occurs on the High Seas or in the Exclusive Economic Zone of a State, and involves more than one flag State, then the States shall consult to seek agreement on which State or States will be the Marine Safety Investigating State(s) in accordance with a requirement, or a recommendation acted upon, to investigate under this Code.
- 7.3 For a Marine Casualty referred to in 7.1 or 7.2, agreement may be reached by the relevant States with another Substantially Interested State for that State or States to be the Marine Safety Investigating State(s).
- 7.4 Prior to reaching an agreement, or if an agreement is not reached, in accordance with 7.1, 7.2 or 7.3, then the existing obligations and rights of States under this Code, and under other international laws, to conduct a Marine Safety Investigation, remain with the respective parties to conduct their own investigation.
- 7.5 By fully participating in a Marine Safety Investigation conducted by another Substantially Interested State, the flag State shall be considered to fulfil its obligations under this Code, regulation 21 of the Annex to the Safety of Life at Sea Convention and Article 94, section 7 of the United Nations Convention on the Law of the Sea.

Chapter 8

POWERS OF AN INVESTIGATION

- 8.1 All States must ensure that their national laws provide investigator(s) carrying out a Marine Safety Investigation with the ability to board a ship, interview the master and crew and any other person involved, and acquire evidential material for the purposes of a Marine Safety Investigation.

Chapter 9

PARALLEL INVESTIGATIONS

- 9.1 Where the Marine Safety Investigating State(s) is conducting a Marine Safety Investigation under this Code, nothing prejudices the right of another Substantially Interested State to conduct its own separate Marine Safety Investigation.
- 9.2 While recognizing that the Marine Safety Investigating State(s) must be able to fulfil obligations under this Code, the Marine Safety Investigating State(s) and any other Substantially Interested State conducting a Marine Safety Investigation must seek to co-ordinate the timing of their investigations, to avoid conflicting demands upon witnesses and access to evidence, where possible.

Chapter 10

CO-OPERATION

- 10.1 All Substantially Interested States must co-operate with the Marine Safety Investigating State(s) to the extent practicable. The Marine Safety Investigating State(s) must provide for the participation of the Substantially Interested States to the extent practicable⁵.

Chapter 11

INVESTIGATION NOT TO BE SUBJECT TO EXTERNAL DIRECTION

- 11.1 Marine Safety Investigating State(s) must ensure that investigator(s) carrying out a Marine Safety Investigation are impartial and objective. The Marine Safety Investigation must be able to report on the results of a Marine Safety Investigation without direction or interference from any persons or organizations who may be affected by its outcome.

⁵ The reference to “extent practicable” may be taken to mean, as an example, that co-operation or participation is limited because national laws make it impracticable to fully co-operate or participate.

Chapter 12

OBTAINING EVIDENCE FROM SEAFARERS

- 12.1 Where a Marine Safety Investigation requires a Seafarer to provide evidence to it, the evidence shall be taken at the earliest practical opportunity. The Seafarer shall be allowed to return to his/her ship, or be repatriated at the earliest possible opportunity. The Seafarers human rights must, at all times, be upheld.
- 12.2 All Seafarers from whom evidence is sought must be informed of the nature and basis of the Marine Safety Investigation. Further, a Seafarer from whom evidence is sought shall be informed, and allowed access to legal advice, regarding:
- (a) Any potential risk that they may incriminate themselves in any proceedings subsequent to the Marine Safety Investigation;
 - (b) Any right not to self-incriminate or to remain silent;
 - (c) Any protections afforded to the Seafarer to prevent the evidence being used against them if they provide the evidence to the Marine Safety Investigation.

Chapter 13

DRAFT MARINE SAFETY INVESTIGATION REPORTS

- 13.1 Subject to 13.2 and 13.3, where it is requested, the Marine Safety Investigating State(s) must send a copy of a draft report to a Substantially Interested State to allow the Substantially Interested State to make comment on the draft report.
- 13.2 Marine Safety Investigating State(s) are only bound to comply with clause 13.1 where the Substantially Interested State receiving the report guarantees not to circulate, nor cause to circulate, publish or give access to the draft report, or any part thereof, without the express consent of the Marine Safety Investigating State(s) or unless such reports or documents have already been published by the Marine Safety Investigating State(s).
- 13.3 The Marine Safety Investigating State(s) are not bound to comply with clause 13.1 if:
- (a) the Marine Safety Investigating State(s) request that the Substantially Interested State receiving the report to affirm that evidence included in the draft report will not be admitted in civil or criminal proceedings against a person who gave the evidence; and
 - (b) the Substantially Interested State refuses to provide such an affirmation.
- 13.4 The Marine Safety Investigating State(s) must invite the Substantially Interested States to submit their comments on the draft report within 30 days or some other mutually agreed period. The Marine Safety Investigating State(s) must consider the comments

before preparing the final report and where the acceptance or rejection of the comments will have direct impact on the interests of the State that submitted them, the Marine Safety Investigating State(s) must notify the Substantially Interested State of the manner in which the comments were addressed. If the Marine Safety Investigating State(s) receives no comments after the 30 days or the mutually agreed period has expired, then it may proceed to finalize the report.

- 13.5 The Marine Safety Investigating State(s) must seek to fully verify the accuracy and completeness of the draft report by the most practical means.

Chapter 14

MARINE SAFETY INVESTIGATION REPORTS

- 14.1 The Marine Safety Investigating State(s) must submit the final version of a Marine Safety Investigation Report to the Organization for every Marine Safety Investigation conducted into a Very Serious Marine Casualty.
- 14.2 Where a Marine Safety Investigation is conducted into a Marine Casualty or Marine Incident, other than a Very Serious Marine Casualty, and a Marine Safety Investigation Report is produced which contains information which may prevent or lessen the seriousness of Marine Casualties or Marine Incidents in the future, the final version must be submitted to the Organization.
- 14.3 The Marine Safety Investigation Report referred in 14.1 and 14.2 must utilize all the information obtained during a Marine Safety Investigation, taking into account its scope, required to ensure that all the relevant safety issues are included and understood so that safety action can be taken as necessary.
- 14.4 The final Marine Safety Investigation Report must be made available to the public and the shipping industry by the Marine Safety Investigating State(s), or the Marine Safety Investigating State(s) must undertake to assist the public and the shipping industry with details, necessary to access the report, where it is published by another State or the Organization.

PART III

RECOMMENDED PRACTICES

Chapter 15

ADMINISTRATIVE RESPONSIBILITIES

- 15.1 States should ensure that Marine Safety Investigating Authorities have available to them sufficient material and financial resources and suitably qualified personnel to enable them to facilitate the State's obligations to undertake Marine Safety Investigations into Marine Casualties and Marine Incidents under this Code.
- 15.2 Any investigator forming part of a Marine Safety Investigation should be appointed on the basis of the skills outlined in resolution A.973(24) for marine investigators.
- 15.3 However, 15.2 does not preclude the appropriate appointment of investigators with necessary specialist skills to form part of a Marine Safety Investigation on a temporary basis, neither does it preclude the use of consultants to provide expert advice on any aspect of a Marine Safety Investigation.
- 15.4 Any person who is an investigator, in a Marine Safety Investigation, or assisting a Marine Safety Investigation, should be bound to operate in accordance with this Code.

Chapter 16

PRINCIPLES OF INVESTIGATION

- 16.1 **Independence:** A Marine Safety Investigation should be unbiased to ensure the free flow of information to it.
- 16.1.1 In order to achieve the outcome in 16.1, the investigator(s) carrying out a Marine Safety Investigation should have functional independence from:
- (a) the parties involved in the Marine Casualty or Marine incident;
 - (b) anyone who may make a decision to take administrative or disciplinary action against an individual or organization involved in a Marine Casualty or Marine Incident; and
 - (c) judicial proceedings;
- 16.1.2 The investigator(s) carrying out a Marine Safety Investigation should be free of interference from the parties in paragraphs (a), (b) and (c) of 16.1.1 with respect to:
- (a) the gathering of all available information relevant to the Marine Casualty or Marine Incident, including voyage data recordings and vessel traffic scheme recordings;

- (b) analysis of evidence and the determination of Causal Factors;
 - (c) drawing conclusions relevant to the Causal Factors;
 - (d) distributing a draft report for comment and preparation of the final report;
and
 - (e) if appropriate, the making of safety recommendations.
- 16.2 **Safety Focused:** It is not the objective of a Marine Safety Investigation to determine liability, or apportion blame. However, the investigator(s) carrying out a Marine Safety Investigation should not refrain from fully reporting on the Causal Factors because fault or liability may be inferred from the findings.
- 16.3 **Co-operation:** Where it is practicable and consistent with the requirements and recommendations of this Code, in particular Chapter 10 on Co-operation, the Marine Safety Investigating State(s) should seek to facilitate maximum co-operation between Substantially Interested States and other persons or organizations conducting an investigation into a Marine Casualty or Marine Incident.
- 16.4 **Priority:** A Marine Safety Investigation should, as far as possible, be afforded the same priority as any other investigation, including investigations by a State for criminal purposes being conducted into the Marine Casualty or Marine Incident.
- 16.4.1 In accordance with 16.4 investigator(s) carrying out a Marine Safety Investigation should not be prevented from having access to evidence in circumstances where another person or organization is carrying out a separate investigation into a Marine Casualty or Marine Incident.
- 16.4.2 The evidence for which ready access should be provided should include:
- (a) survey and other records held by the flag State, the owners, and classification societies;
 - (b) all recorded data, including voyage data recorders; and
 - (c) evidence that may be provided by government surveyors, coastguard officers, vessel traffic service operators, pilots or other marine personnel.
- 16.5 **Scope of a Marine Safety Investigation:** Proper identification of Causal Factors requires timely and methodical investigation, going far beyond the immediate evidence and looking for underlying conditions, which may be remote from the site of the Marine Casualty or Marine Incident, and which may cause other future Marine Casualties and Marine Incidents. Marine Safety Investigations should therefore be seen as a means of identifying not only immediate Causal Factors but also failures that may be present in the whole chain of responsibility.

Chapter 17

INVESTIGATION OF MARINE CASUALTIES (OTHER THAN VERY SERIOUS CASUALTIES) AND MARINE INCIDENTS

- 17.1 A Marine Safety Investigation should be conducted into Marine Casualties (other than Very Serious Marine Casualties – which are addressed in Chapter 6 of this Code) and Marine Incidents, by the flag State of a ship involved, if it is considered likely that a Marine Safety Investigation will provide information that can be used to prevent Marine Casualties and Marine Incidents in the future.
- 17.2 Chapter 7 contains the mandatory requirements for determining who the Marine Safety Investigating State(s) are for a Marine Casualty. Where the occurrence being investigated in accordance with this chapter is a Marine Incident, Chapter 7 should be followed as a recommended practice as if it referred to Marine Incidents.

Chapter 18

FACTORS THAT SHOULD BE TAKEN INTO ACCOUNT WHEN SEEKING AGREEMENT UNDER CHAPTER 7 OF PART II

- 18.1 When the flag State(s), a coastal State (if involved) or other Substantially Interested States are seeking to reach agreement, in accordance with Chapter 7 of Part II on which State or State(s) will be the Marine Safety Investigating State(s) under this Code, the following factors should be taken into account:
- (a) whether the Marine Casualty or Marine Incident occurred in the territory, including Territorial Sea, of a State;
 - (b) whether the ship or ships involved in a Marine Casualty or Marine Incident occurring on the High Seas, or in the Exclusive Economic Zone, subsequently sail into the Territorial Sea of a State;
 - (c) the resources and commitment required of the flag State and other Substantially Interested States;
 - (d) the potential scope of the Marine Safety Investigation and the ability of the flag State or another Substantially Interested State to accommodate that scope;
 - (e) the need of the investigator(s) carrying out a Marine Safety Investigation to access evidence and consideration of the State or States best placed to facilitate that access to evidence;
 - (f) any perceived or actual adverse effects of the Marine Casualty or Marine incident on other States;
 - (g) the nationality of the crew, passengers and other persons affected by the Marine Casualty or Marine Incident.

Chapter 19

ACTS OF UNLAWFUL INTERFERENCE

- 19.1 If in the course of a Marine Safety Investigation it becomes known or is suspected that an offence is committed under Articles 3, *3bis*, *3ter* or *3quarter* of the Convention for the Suppression of Unlawful Acts Against the Safety or Maritime Navigation, the Marine Safety Investigation Authority should immediately seek to ensure that the maritime security authorities of the State(s) concerned are informed.

Chapter 20

NOTIFICATION TO PARTIES INVOLVED AND COMMENCEMENT OF AN INVESTIGATION

- 20.1 When a Marine Safety Investigation is commenced under this Code, the master, the owner and Agent of a ship involved in the Marine Casualty or Marine Incident being investigated, should be informed as soon as practicable of:
- (a) the Marine Casualty or Marine Incident under investigation;
 - (b) the time and place at which the Marine Safety Investigation will commence;
 - (c) the name and contact details of the Marine Safety Investigation Authority(ies);
 - (d) the relevant details of the legislation under which the Marine Safety Investigation is being conducted;
 - (e) the rights and obligations of the parties subject to the Marine Safety Investigation;
and
 - (f) the rights and obligations of the State or States conducting the Marine Safety Investigation.
- 20.2 Each State should develop a standard document detailing the information in 20.1 that can be transmitted electronically to the master, the agent and the owner of the ship.
- 20.3 Recognizing that any ship involved in a Marine Casualty or Marine Incident may continue in service, and that a ship should not be delayed more than is absolutely necessary, the Marine Safety Investigating State(s) conducting the Marine Safety Investigation should start the Marine Safety Investigation as soon as is reasonably practicable, without delaying the ship unnecessarily.

Chapter 21

CO-ORDINATING AN INVESTIGATION

- 21.1 The recommendations in this Chapter should be applied in accordance with the principles in Chapter 10 and Chapter 11 of this Code.

- 21.2 The Marine Safety Investigating State(s) should ensure that there is an appropriate framework within the State for:
- (a) the designation of investigators to the Marine Safety Investigation including an investigator to lead the Marine Safety Investigation;
 - (b) the provision of a reasonable level of support to members of the Marine Safety Investigation;
 - (c) the development of a strategy for the Marine Safety Investigation in liaison with other Substantially Interested States;
 - (d) ensuring the methodology followed during the Marine Safety Investigation is consistent with that recommended in resolution A.884(21), as amended;
 - (e) ensuring the Marine Safety Investigation takes into account any recommendations or instruments published by the Organization or International Labour Organization, relevant to conducting a Marine Safety Investigation; and
 - (f) ensuring the Marine Safety Investigation takes into account the safety management procedures and the safety policy of the operator of a ship in terms of the International Management Code for the Safe Operation of Ships and for Pollution Prevention adopted by the Organization by resolution A.741(18), as amended.
- 21.3 The Marine Safety Investigating State(s) should allow a Substantially Interested State to participate in aspects of the Marine Safety Investigation relevant to it, to the extent practicable.
- 21.3.1 Participation should include allowing representatives of the Substantially Interested State to:
- (a) interview witnesses;
 - (b) view and examine evidence and make copies of documents;
 - (c) make submissions in respect of the evidence, comment on and have their views properly reflected in the final report; and
 - (d) be provided with the draft and final reports relating to the Marine Safety Investigation⁶.
- 21.4 To the extent practical, Substantially Interested States should assist the Marine Safety Investigating State(s) with access to relevant information for the Marine Safety Investigation. To the extent practical, the investigator(s) carrying out a Marine Safety Investigation should also be afforded access to Government surveyors, coastguard officers, ship traffic service operators, pilots and other marine personnel of a Substantially Interested State⁶.

⁶ The reference to 'extent practical' may be taken to mean, as an example, that co-operation or participation is limited because national laws make it impractical to fully co-operate or participate.

- 21.5 The Flag State of a ship involved in a Marine Casualty or Marine Incident should help to facilitate the availability of the crew to the investigator(s) carrying out the Marine Safety Investigation.

Chapter 22

COLLECTION OF EVIDENCE

- 22.1 A Marine Safety Investigating State(s) should not unnecessarily detain a ship for the collection of evidence from it or have original documents or equipment removed unless this is essential for the purposes of the Marine Safety Investigation. Investigators should make copies of documents where practicable.
- 22.2 Investigator(s) carrying out a Marine Safety Investigation should secure records of interviews and other evidence collected during a Marine Safety Investigation in a manner which prevents access by persons who do not require it for the purpose of the investigation.
- 22.3 Investigator(s) carrying out the Marine Safety Investigation should make effective use of all recorded data including voyage data recorders if fitted. Voyage data recorders should be made available for downloading by the investigator(s) carrying out a Marine Safety Investigation or an appointed representative.
- 22.3.1 In the event that the Marine Safety Investigating State(s) do not have adequate facilities to read a voyage data recorder, States with such a capability should offer their services having due regard to the:
- (a) available resources;
 - (b) capabilities of the readout facility;
 - (c) timeliness of the readout; and
 - (d) location of the facility.

Chapter 23

CONFIDENTIALITY OF INFORMATION

- 23.1 States should ensure that investigator(s) carrying out a Marine Safety Investigation only disclose information from a Marine Safety Record where:
- (a) it is necessary or desirable to do so for transport safety purposes and any impact on the future availability of safety information to a Marine Safety Investigation is taken into account; or

- (b) as otherwise permitted in accordance with this Code⁷.
- 23.2 States involved in Marine Safety Investigation under this Code should ensure that any Marine Safety Record in its possession is not disclosed in criminal, civil, disciplinary or administrative proceedings unless:
- (a) the appropriate authority for the administration of justice in the State determines that any adverse domestic or international impact that the disclosure of the information might have on any current or future Marine Safety Investigations is outweighed by the public interest in the administration of justice; and⁸
- (b) where appropriate in the circumstances, the State which provided the Marine Safety Record to the Marine Safety Investigation authorizes its disclosure.
- 23.3 Marine Safety Records should be included in the final report, or its appendices, *only* when pertinent to the analysis of the Marine Casualty or Marine Incident. Parts of the record not pertinent, and not included in the final report, should not be disclosed.
- 23.4 States need only supply information from a Marine Safety Record to a Substantially Interested State where doing so will not undermine the integrity and credibility of any Marine Safety Investigation being conducted by the State or States providing the information.
- 23.4.1 The State supplying the information from a Marine Safety Record may require that the State receiving the information undertake to keep it confidential.

⁷ States recognize that there are merits in keeping information from a Marine Safety Record confidential where it needs to be shared with people outside the Marine Safety Investigation for the purpose of conducting the Marine Safety Investigation. An example is where information from a Marine Safety Record needs to be provided to an external expert for their analysis or second opinion. Confidentiality would seek to ensure that sensitive information is not inappropriately disclosed for purposes other than the Marine Safety Investigation, at a time when it has not been determined how the information will assist in determining the contributing factors in a Marine Casualty or Marine Incident. Inappropriate disclosure may infer blame or liability on the parties involved in the Marine Casualty or Marine Incident.

⁸ Examples of where it may be appropriate to disclose information from a Marine Safety Record in criminal, civil, disciplinary or administrative proceedings may include:

- (a) where a person the subject of the proceedings has engaged in conduct with the intention to cause a destructive result; or
- (b) where a person the subject of the proceedings has been aware of a substantial risk that a destructive result will occur and having regard to the circumstances known to him or her it is unjustifiable to take the risk.

Chapter 24

PROTECTION FOR WITNESSES AND INVOLVED PARTIES

- 24.1 If a person is required by law to provide evidence that may incriminate them, for the purposes of a Marine Safety Investigation, the evidence should, so far as national laws allow, be prevented from admission into evidence in civil or criminal proceedings against the individual.
- 24.2 A person from whom evidence is sought should be informed about the nature and basis of the investigation. A person from whom evidence is sought should be informed, and allowed access to legal advice, regarding:
- (a) Any potential risk that they may incriminate themselves in any proceedings subsequent to the Marine Safety Investigation;
 - (b) Any right not to self-incriminate or to remain silent;
 - (c) Any protections afforded to the person to prevent the evidence being used against them if they provide the evidence to the Marine Safety Investigation.

Chapter 25

DRAFT AND FINAL REPORT

- 25.1 Marine Safety Investigation Reports from a Marine Safety Investigation should be completed as quickly as practicable.
- 25.2 Where it is requested, and where practicable, the Marine Safety Investigating State(s) should send a copy of a draft Marine Safety Investigation Report for comment to Interested Parties. However, this recommendation does not apply where there is no guarantee that the Interested Party will not circulate, nor cause to circulate, publish or give access to the draft Marine Safety Investigation Report, or any part thereof, without the express consent of the Marine Safety Investigating States(s).
- 25.3 The Marine Safety Investigating State(s) should allow the Interested Party 30 days or some other mutually agreed time to submit their comments on the Marine Safety Investigation Report. The Marine Safety Investigating State(s) should consider the comments before preparing the final Marine Safety Investigation Report and where the acceptance or rejection of the comments will have direct impact on the interests of the Interested Party that submitted them, the Marine Safety Investigating State(s) should notify the Interested Party of the manner in which the comments were addressed. If the Marine Safety Investigating State(s) receives no comments after the 30 days or the mutually agreed period has expired, then it may proceed to finalize the Marine Safety Investigation Report⁹.

⁹ See chapter 13 where provisions with respect to providing interested parties with reports on request may alternatively be included as a mandatory provision.

- 25.4 Where it is permitted by the national laws of the State preparing the Marine Safety Investigation Report, the draft and final report should be prevented from being admissible in evidence in proceedings related to the Marine Casualty or Marine Incident that may lead to disciplinary measures, criminal conviction or the determination of civil liability.
- 25.5 At any stage during a Marine Safety Investigation interim safety measures may be recommended.
- 25.6 Where a Substantially Interested State disagrees with the whole or a part of a final Marine Safety Investigation Report, it may submit its own report to the Organization.

Chapter 26

RE-OPENING AN INVESTIGATION

- 26.1 Marine Safety Investigating State(s) which have completed a Marine Safety Investigation, should reconsider their findings and consider re-opening the investigation when new evidence is presented which may materially alter the analysis and conclusions reached.
- 26.2 When significant new evidence relating to any Marine Casualty or Marine Incident is presented to the Marine Safety Investigating State(s) that have completed a Marine Safety Investigation, the evidence should be fully assessed and referred to other Substantially Interested States for appropriate input.

ANNEX 34

DRAFT AMENDMENTS TO SOLAS CHAPTER XI-1

- 1 The following new regulation 6 is added after the existing regulation 5:

“Regulation 6*Additional requirements for the investigation of marine casualties and incidents*

Taking into account regulation I/21, each Administration shall conduct investigations of marine casualties and incidents, in accordance with the provisions of the present Convention, as supplemented by the provisions of the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) adopted by resolution MSC....(...), and:

- .1 the provisions of parts I and II of the Casualty Investigation Code shall be fully complied with;
- .2 the related guidance and explanatory material contained in part III of the Casualty Investigation Code should be taken into account to the greatest possible extent in order to achieve a more uniform implementation of the Casualty Investigation Code;
- .3 amendments to parts I and II of the Casualty Investigation Code shall be adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the annex other than chapter I; and
- .4 part III of the Casualty Investigation Code shall be amended by the Maritime Safety Committee in accordance with its rules of procedure.”

ANNEX 36**DRAFT ASSEMBLY RESOLUTION ON THE NEED FOR CAPACITY-BUILDING FOR THE DEVELOPMENT AND IMPLEMENTATION OF NEW, AND AMENDMENTS TO EXISTING, INSTRUMENTS**

THE ASSEMBLY,

RECALLING resolution A.500(XII) directing the Council and the Committees to entertain proposals for new conventions or amendments to existing conventions only on the basis of clear and well-documented demonstration of compelling need, taking into account the undesirability of modifying conventions not yet in force or of amending existing conventions unless such latter instruments have been in force for a reasonable period of time and experience has been gained of their operation, having regard to the costs to the maritime industry and the burden on the legislative and administrative resources of Member States,

NOTING with satisfaction progress achieved in the implementation of the provisions of resolution A.500(XII),

APPRECIATING the efforts of the Council through its Strategic Plan regarding the importance of capacity-building to ensure universal and uniform application of the Organization's instruments,

NOTING FURTHER that, unless the Council, the Committees and their subsidiary bodies adopt a cradle to grave approach in relation to capacity-building; technical co-operation and assistance, the chances of success in the ratification and realization of effective implementation of such instruments may be reduced by the level of unpreparedness or lack of capacity that many Governments, particularly of developing countries, experience at the point when implementation of such instruments is urgently required,

CONSIDERING that the lack of capacity within States has a direct relationship to the level and quality of implementation of existing, new and/or amended instruments and that the low speed of ratification is partly due to the lack of understanding of the original intentions of the instrument and what is required of Member States in order to realize full benefits of implementation,

TAKING INTO ACCOUNT that even though States may have ratified newly adopted or amended instruments, the lack of preparation through capacity-building and training, or the absence of a guidance document to implementation, results in an undesirable lack of success to effective implementation of these instruments,

1. DIRECTS the Council to co-ordinate the work of the Committees and their subsidiary bodies towards ensuring as far as possible a balanced level of implementation of new instruments;
2. RECOMMENDS that the Council and the Committees as a means to promote and enhance capacity-building efforts consider proposals for the development of new instruments and/or amendment of existing ones after an assessment of implications for capacity-building and technical co-operation has been undertaken;

3. FURTHER RECOMMENDS that the Committees establish a mechanism for the identification of new instruments requiring technical assistance intervention prior to implementation; identification of issues requiring special focus when developing related technical co-operation and assistance interventions relating to implementation of new measures; and the identification of new instruments requiring a simplified guide for implementation;
4. INVITES the Council to monitor progress of implementation of this policy on a regular basis.

ANNEX 37**RESOLUTION MSC.254(83)****(adopted on 12 October 2007)****ADOPTION OF AMENDMENTS TO THE
PERFORMANCE STANDARDS AND FUNCTIONAL REQUIREMENTS FOR THE
LONG-RANGE IDENTIFICATION AND TRACKING OF SHIPS**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21) on Procedure for the adoption of, and amendments to, performance standards and technical specifications, by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee,

RECALLING FURTHER the provisions of the regulation V/19-1 of the International Convention for the Safety of Life at Sea, 1974, as amended (the Convention), relating to the long-range identification and tracking of ships,

ALSO RECALLING the Performance standards and functional requirements for the long-range identification and tracking of ships (the Performance standards) adopted by resolution MSC.210(81),

RECOGNIZING the need to adopt certain amendments to the Performance standards,

HAVING CONSIDERED the recommendations made, at its eighty-third session,

1. ADOPTS the amendments to the Performance standards and functional requirements for the long-range identification and tracking of ships, set out in the Annex to the present resolution;
2. RECOMMENDS Contracting Governments to the Convention to ensure that all Long-range identification and tracking (LRIT) Data Centres and the International LRIT Data Exchange conform to functional requirements not inferior to those specified in the Performance standards, as modified by the amendments, set out in the Annex to the present resolution; and
3. AGREES to review and amend, in the light of experience gained as necessary, the Performance standards and functional requirements for the long-range identification and tracking of ships, as modified by the amendments, set out in the Annex to the present resolution.

ANNEX

**AMENDMENTS TO THE
PERFORMANCE STANDARDS AND FUNCTIONAL REQUIREMENTS FOR THE
LONG-RANGE IDENTIFICATION AND TRACKING OF SHIPS**

4 Shipborne equipment

1 After the existing paragraph 4.4, the following new paragraph is inserted:

“4.4.1 When a ship is undergoing repairs in dry-dock or in port or is laid up for a long period, the master or the Administration may reduce the frequency of the transmission LRIT information to one report every 24-hour period, or may temporarily stop the transmission of such information.”

7 LRIT Data Centre

2 After the existing paragraph 7.1, the following new paragraphs are inserted:

“7.1A When providing archived LRIT information to LRIT Data Users, LRIT Data Centres should utilize the version of the LRIT Data Distribution Plan which was applicable at the time when the LRIT information requested were originally received. Thus, all LRIT Data Centres should also archive the LRIT Data Distribution Plan covering the time period of the archived LRIT information.

7.1B All Regional or Co-operative LRIT Data Centres and the International LRIT Data Centre should automatically maintain journal(s) for all of the internally routed LRIT information. The journal(s) should only contain message header information which may be used for audit purposes. The journal(s) should be transmitted to the International LRIT Data Exchange at regular intervals in order to be combined with the journal(s) maintained by the International LRIT Data Exchange.”

10 International LRIT Data Exchange

3 After the existing paragraph 10.3.5, the following new paragraph is inserted:

“5A receive journal(s) from Regional, Co-operative, and the International LRIT Data Centre and combine these journal(s) with its own journal(s);”

4 *After the existing paragraph 10.3.12, the following new paragraph is inserted:*

“.13 not be able to view or access the LRIT information;”

5 *The existing paragraph 10.3.13 is renumbered as “10.3.14” and the “.” is deleted and replaced by “; and”.*

6 *The following is inserted at the end of the renumbered 10.3.14:*

“.15 receive updated pricing information from LRIT Data Centres, create a master price list for all LRIT Data Centres and transmit the master price list to an LRIT Data Centre on request.”

7 *After the existing paragraph 10.3.15, the following new paragraph is inserted:*

“10.4 The LRIT Co-ordinator should have access to all journals. Contracting Governments and LRIT Data Centres should have only access to their share of the journals (i.e. with respect to LRIT information requested and provided). The journal(s) should be accessed off-line.”

ANNEX 38

WORK PROGRAMMES OF THE SUB-COMMITTEES

SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG)

		Target completion date/number of sessions needed for completion	Reference
1	Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments	Continuous	BLG 10/19, section 3 BLG 11/16, section 3
2	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; MSC 80/24, paragraph 21.6; BLG 11/16, section 12
3	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; BLG 11/16, section 11
H.1	Environmental and safety aspects of alternative tanker designs under MARPOL Annex I, regulation 19		BLG 3/18, paragraph 15.7
	.1 assessment of alternative tanker designs, if any (as necessary)	Continuous	BLG 1/20, section 16; BLG 4/18, paragraph 15.3
H.2	Development of provisions for gas-fuelled ships (in co-operation with FP and DE)	2009	MSC 78/26, paragraph 24.11; BLG 11/16, section 6
H.3	Development of guidelines for uniform implementation of the 2004 BWM Convention	2008	MEPC 52/24, paragraph 2.21.6; BLG 11/16, section 4

Notes: 1 “H” means a high priority item and “L” means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.

2 Items printed in bold letters have been selected for the provisional agenda for BLG 12.

Sub-Committee on Bulk Liquids and Gases (BLG) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.4	Amendments to MARPOL Annex I for the prevention of marine pollution during oil transfer operations between ships at sea	2008	MEPC 53/24, paragraph 20.6; BLG 11/16, section 4
H.5	Review of MARPOL Annex VI and the NO_x Technical Code	2008	MEPC 53/24, paragraph 4.50; BLG 11/16, section 5
H.6	Application of the requirements for the carriage of bio-fuels and bio-fuel blends	2008	MEPC 55/23, paragraphs 19.4 and 19.5
H.7	Development of international measures for minimizing the translocation of invasive aquatic species through bio-fouling of ships	2010	MEPC 56/23, paragraph 19.12
H.8	Review of the Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuels	2008	BLG 11/16, paragraph 14.14; MSC 83/28, paragraph 25.8
H.9	Revision of the IGC Code (in co-operation with FP, DE, SLF and STW as necessary and when requested by BLG)	2010	MSC 83/28, paragraph 25.7
H.10	Safety requirements for natural gas hydrate pellet carriers	3 sessions*	MSC 83/28, paragraph 25.6
L.1	Guidelines on other technological methods verifiable or enforceable to limit SO _x emissions	2 sessions	MEPC 53/24, paragraph 4.40; BLG 11/16, section 9

* The Sub-Committee has been instructed to include the item in the provisional agenda for BLG 13.

SUB-COMMITTEE ON DANGEROUS GOODS, SOLID CARGOES AND CONTAINERS (DSC)

		Target completion date/number of sessions needed for completion	Reference
1	Harmonization of the IMDG Code with the UN Recommendations on the Transport of Dangerous Goods	Continuous	MSC 63/23, paragraph 10.6; DSC 11/19, section 3 paragraph 10.6; DSC 11/19, section 3
2	Reports on incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Continuous	CDG 45/22, section 11 and paragraph 20.2; DSC 11/19, section 6
3	Amendments to the BC Code, including evaluation of properties of solid bulk cargoes	Continuous	BC 34/17, section 3; DSC 11/19, section 4
4	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; DSC 11/19, section 6
H.1	Amendment (35-10) to the IMDG Code and supplements	2009	DSC 3/15, paragraph 12.6; DSC 12/19, section 3
H.2	Amendments to the CSS Code	2008	MSC 78/26, paragraph 24.15.3; DSC 12/19, section 8

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- Notes:**
- 1 “H” means high priority item and “L” means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.
 - 2 Items printed in bold letters have been selected for the provisional agenda for DSC 13.

Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.3	Extension of the BLU Code to include grain	2008	MSC 79/23, paragraph 20.7; DSC 11/19, section 12
H.4	Guidance on providing safe working conditions for securing of containers	2008	MSC 80/24, paragraph 21.8; DSC 12/19, section 10
H.5	Review of the Recommendations on the safe use of pesticides in ships	2008	DSC 10/17, paragraph 4.23; DSC 12/19, section 11
H.6	Guidance on protective clothing	2008	MSC 81/25, paragraph 23.8; DSC 11/19, paragraph 16.1.3.1
H.7	Revision of the Code of Safe Practice for Ships Carrying Timber Deck Cargoes	2010	MSC 82/24, paragraph 21.11
H.8	Form and procedure for approval of the Cargo Securing Manual	2008	MSC 82/24, paragraph 21.12
H.9	Stowage of water-reactive materials (in co-operation with FP as necessary and when requested by DSC)	2009	MSC 83/28, paragraph ...
H.10	Amendments to the International Convention for Safe Containers, 1972	2009	DSC 12/19, section 16; MSC 83/28, paragraph 25.13.1
H.11	Review of Guidelines for packing of cargo transport units	2009	DSC 12/19, section 16; MSC 83/28, paragraph 25.13.2

SUB-COMMITTEE ON FIRE PROTECTION (FP)

		Target completion date/number of sessions needed for completion	Reference
1	Analysis of fire casualty records	Continuous	MSC 75/24, paragraph 22.18; FP 51/19, section 10
2	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; FP 51/19, section 9
H.1	Performance testing and approval standards for fire safety systems	2009	MSC 74/24, paragraph 21.12; FP 51/19, section 3
H.2	Comprehensive review on the Fire Test Procedures Code	2008	MSC 80/24, paragraph 21.11; FP 51/19, section 4
H.3	Review of the SPS Code (co-ordinated by DE)	2008	MSC 78/26, paragraph 24.9; FP 51/19, section 6
H.4	Development of provisions for gas-fuelled ships (co-ordinated by BLG)	2009	MSC 78/26, paragraph 24.19; FP 51/19, section 7
H.5	Measures to prevent fires in engine-rooms and cargo pump-rooms	2009	MSC 79/23, paragraph 20.11; FP 51/19, section 8
H.6	Fire resistance of ventilation ducts	2009	MSC 81/25, paragraph 23.13; MSC 83/28, paragraph 25.22

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- Notes:**
- 1 “H” means a high priority item and “L” means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.
 - 2 Items printed in bold letters have been selected for the provisional agenda for FP 52.

Sub-Committee on Fire Protection (FP) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.7	Application of requirements for dangerous goods in package form in SOLAS and the 2000 HSC Code (in co-operation with DSC)	2008	MSC 81/25, paragraph 23.14; FP 51/19, section 12
H.8	Unified interpretation on the number and arrangement of portable extinguishers	2008	MSC 81/25, paragraphs 23.15 and 23.16; FP 51/19, section 13
H.9	Review of fire safety of external areas on passenger ships	2009	MSC 81/25, paragraph 23.17.1; FP 51/19, section 14
H.10	Fixed hydrocarbon gas detection systems on double-hull oil tankers (in co-operation with BLG as necessary and when requested by FP)	2009	MSC 82/24, paragraph 21.18; FP 51/19, paragraph 10.10
H.11	Clarification of SOLAS chapter II-2 requirements regarding interrelation between central control station and safety centre	2009	MSC 82/24, paragraph 21.20
H.12	Harmonization of the requirements for the location of entrances, air inlets and openings in the superstructures of tankers (in co-operation with BLG as necessary and when requested by FP)	2 sessions	FP 51/19, paragraph 9.9; MSC 83/28, paragraph 25.24.2
H.13	Amendments to SOLAS chapter II-2 related to the releasing controls and means of escape for spaces protected by fixed carbon dioxide systems	2 sessions	FP 51/19, paragraph 3.20; MSC 83/28, paragraph 25.24.1
H.14	Guidelines for drainage systems in closed vehicle and ro-ro spaces and special category spaces (in co-operation with SLF)	2009*	MSC 83/28, paragraph 25.20

* The Sub-Committee has been instructed to include the item in the provisional agenda for FP 53.

Sub-Committee on Fire Protection (FP) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.15	Review of fire protection requirements for on-deck cargo areas (in co-operation of DSC as necessary and when requested by FP)	3 sessions	MSC 83/28, paragraph 25.21
H.16	Means of escape from machinery spaces	2 sessions	MSC 83/28, Paragraph 25.23
H.17	Measures to prevent explosions on oil and chemical tankers transporting low-flash point cargoes (in co-operation with BLG and DE as necessary and when requested by FP)	2009	FP 51/19, paragraph 10.8; MSC 83/28, paragraph 9.26
H.18	Recommendation on evacuation analysis for new and existing passenger ships	2008	MSC 73/21, paragraph 4.16; MSC 83/28, paragraph 8.7
L.1	Smoke control and ventilation	2 sessions	FP 39/19, section 9; FP 46/16, section 4

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI)

		Target completion date/number of sessions needed for completion	Reference
1	Mandatory reports under MARPOL	Continuous	MSC 70/23, paragraph 20.12.1; MEPC 56/23, paragraph 14.4; FSI 15/18, section 4
2	Casualty statistics and investigations	Continuous	MSC 68/23, paragraphs 7.16 to 7.24; FSI 15/18, section 6
3	Harmonization of port State control activities	Continuous	MSC 71/23, paragraph 20.16; MSC 80/24, paragraph 21.16; FSI 15/18, section 7
4	Responsibilities of Governments and measures to encourage flag State compliance	Continuous	MSC 68/23, paragraphs 7.2 to 7.8; FSI 15/18, section 3
5	Comprehensive analysis of difficulties encountered in the implementation of IMO instruments	Continuous	MSC 69/22, paragraph 20.28; FSI 8/19, paragraph 4.3; FSI 15/18, section 11
6	Review of the Survey Guidelines under the HSSC (resolution A.948(23))	Continuous	MSC 72/23, paragraph 21.27; FSI 15/18, section 12
7	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; FSI 15/18, section 13
8	Review of the Code for the Implementation of Mandatory IMO Instruments	Continuous	MSC 83/28, paragraph 25.27

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 - 2 Items printed in bold letters have been selected for the provisional agenda for FSI 16.

Sub-Committee on Flag State Implementation (FSI) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.1	PSC guidelines on seafarers' working hours	2009	MSC 70/23, paragraph 20.12.3; FSI 15/18, paragraph 10.5
H.2	Illegal, unregulated and unreported (IUU) fishing and implementation of resolution A.925(22)	2008	MSC 72/23, paragraph 21.28; FSI 10/17, section 11; MSC 75/24, paragraphs 13.11 and 22.25.3; FSI 15/18, section 14
H.3	Development of guidelines on port State control under the 2004 BWM Convention	2008	MEPC 52/24, paragraph 2.21.2; FSI 15/18, section 9
H.4	Port reception facilities-related issues	2010	MEPC 53/24, paragraph 9.7; FSI 15/18, section 5
H.5	Code of conduct during demonstrations/campaigns against ships on high seas (co-ordinated by NAV)	2 sessions	MSC 82/24, paragraph 21.26

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)

		Target completion date/number of sessions needed for completion	Reference
1	Global Maritime Distress and Safety System (GMDSS)		COMSAR 10/16, section 3; COMSAR 11/18, section 3
	.1 matters relating to the GMDSS Master Plan	Continuous	COMSAR 10/16, paragraphs 3.1 to 3.4
	.2 exemptions from radio requirements	Continuous	COMSAR 4/14, paragraphs 3.38 to 3.41; COMSAR 11/18, paragraphs 3.1 to 3.4
2	Promulgation of maritime safety information (MSI) (in co-operation with ITU, IHO, WMO and IMSO)		
	.1 operational and technical co-ordination provisions of maritime safety information (MSI) services, including review of the related documents	Continuous	COMSAR 10/16, paragraphs 3.5 to 3.29; COMSAR 11/18, paragraphs 3.5 to 3.22
3	ITU World Radiocommunication Conference matters	Continuous	COMSAR 10/16, paragraphs 4.3 to 4.16 and 4.13 to 4.20; COMSAR 11/18, paragraphs 4.3 to 4.16
4	Radiocommunication ITU-R Study Group 8 matters	Continuous	COMSAR 10/16, paragraphs 4.1, 4.2 and 4.9 to 4.12; COMSAR 11/18, paragraphs 4.1 and 4.2

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 - 2 Items printed in bold letters have been selected for the provisional agenda for COMSAR 12.

Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) (continued)

		Target completion date/number of sessions needed for completion	Reference
5	Satellite services (Inmarsat and COSPAS-SARSAT)	Continuous	COMSAR 10/16, section 5; COMSAR 11/18, section 5
6	Matters concerning search and rescue, including those related to the 1979 SAR Conference and the implementation of the GMDSS		
.1	harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters	2008	COMSAR 10/16, paragraphs 6.1 to 6.16; COMSAR 11/18, paragraphs 6.1 to 6.26
.2	plan for the provision of maritime SAR services, including procedures for routing distress information in the GMDSS	Continuous	COMSAR 10/16, paragraphs 6.27 to 6.41; COMSAR 11/18, paragraphs 6.27 to 6.48
.3	revision of the IAMSAR Manual	Continuous	MSC 71/23, paragraph 20.2; COMSAR 11/18, section 8
.4	medical assistance in SAR services	2008	MSC 75/24, paragraph 22.29; COMSAR 11/18, paragraphs 6.49 to 6.51
7	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; MSC 78/26, paragraph 24.8

Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.1	Developments in maritime radiocommunication systems and technology	2008	MSC 74/24, paragraph 21.25.1; COMSAR 11/18, section 7
H.2	Guidelines for uniform operating limitations of high-speed craft (co-ordinated by DE)	2008	MSC 81/25, paragraph 23.45; COMSAR 11/18, section 3
H.3	Development of an e-navigation strategy (co-ordinated by NAV)	2008	MSC 81/25, paragraphs 23.34 to 23.37; COMSAR 11/18, section 14
H.4	Development of procedures for updating shipborne navigation and communication equipment (co-ordinated by NAV)	2 sessions	MSC 83/28, paragraph 25.30
L.1	Replacements for use of NBDP (radio telex) for maritime distress and safety communications in maritime MF/HF bands	2008	MSC 81/25, paragraph 23.23; COMSAR 11/18, section 12

SUB-COMMITTEE ON SAFETY OF NAVIGATION (NAV)

		Target completion date/number of sessions needed for completion	Reference
1	Routeing of ships, ship reporting and related matters	Continuous	MSC 72/23, paragraphs 10.69 to 10.71, 20.41 and 20.42; NAV 53/22, section 3
2	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; NAV 53/22, section 17
3	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; NAV 53/22, section 18
H.1	Worldwide radionavigation system (WWRNS)	2008	MSC 75/24, paragraph 22.37; NAV 53/22, section 12
.1	new developments in the field of GNSS, especially Galileo	2008	
.2	review and amendment of IMO policy for GNSS (resolution A.915(22))	2008	
.3	recognition of radionavigation systems as components of the WWRNS (resolution A.953(23))	2008	
H.2	ITU matters, including Radiocommunication ITU-R Study Group 8 matters	2009	MSC 69/22, paragraphs 5.69 and 5.70; NAV 53/22, section 9

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 - 2 Items printed in bold letters have been selected for the provisional agenda for NAV 54.

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.3	Development of guidelines for IBS, including performance standards for bridge alert management	2009	MSC 78/26, paragraph 24.30; NAV 53/22, section 4
H.4	Amendments to COLREG Annex I related to colour specification of lights	2008	MSC 80/24, paragraph 21.24.1; NAV 53/22, section 8
H.5	Carriage requirements for a bridge navigational watch alarm system	2008	MSC 81/25, paragraph 23.27; NAV 53/22, section 6
H.6	Development of an e-navigation strategy (in co-operation with COMSAR)	2008	MSC 81/25, paragraphs 23.34 to 23.37; NAV 53/22, section 13
H.7	Development of carriage requirements for ECDIS	2008	MSC 81/25, paragraphs 23.39 and 23.40; NAV 53/22, section 14
H.8	Guidelines for uniform operating limitations of high-speed craft (co-ordinated by DE)	2008	MSC 81/25, paragraph 23.45; NAV 53/22, section 15
H.9	Guidelines on the layout and ergonomic design of safety centres on passenger ships	2008	MSC 81/25, paragraph 23.42; NAV 53/22, section 16
H.10	Amendments to the General Provisions on Ships' Routeing	2008	MSC 82/24, paragraph 21.34
H.11	Review of COLREGs regarding the right of way of vessels over pleasure craft	2008	MSC 82/24, paragraph 21.35

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.12	Code of conduct during demonstrations/ campaigns against ships on high seas (in co-operation with FSI)	2009	MSC 82/24, paragraph 21.36
H.13	Measures to minimize incorrect data transmissions by AIS equipment (in co-operation with FSI and COMSAR as necessary)	2009	MSC 82/24, paragraph 21.38
H.14	Review of vague expressions in SOLAS regulation V/22	2009	MSC 82/24, paragraphs 21.39 to 21.40
H.15	Revision of the Guidance on the application of AIS binary messages	2009	MSC 82/24, paragraph 21.41
H.16	Improved safety of pilot transfer arrangements (in co-operation with DE)	2009	MSC 82/24, paragraph 21.42
H.17	Amendments to the Performance standards for VDR and S-VDR	2 sessions	MSC 83/28, paragraph 25.34
H.18	Development of procedures for updating shipborne navigation and communication equipment (in co-operation with COMSAR)	2 sessions	MSC 83/28, paragraph 25.33

SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT (DE)

		Target completion date/number of sessions needed for completion	Reference
1	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; DE 50/27, section 17
2	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; DE 50/27, section 8
H.1	Amendments to resolution A.744(18)	2008	DE 45/27, paragraphs 7.18 and 7.19; DE 50/27, section 3
H.2	Measures to prevent accidents with lifeboats (in co-operation with FSI, NAV and STW)	2008	MSC 74/24, paragraph 21.34; DE 50/27, section 12
H.3	Compatibility of life-saving appliances	2008	DE 47/15, paragraph 5.3; MSC 78/26, paragraph 24.37.1; DE 50/27, section 13
H.4	Review of the SPS Code (in co-operation with DSC, FP, NAV, COMSAR and SLF)	2008	MSC 78/26, paragraph 24.9; DE 50/27, section 9

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 - 2 Items printed in bold letters have been selected for the provisional agenda for DE 51.

Sub-Committee on Ship Design and Equipment (DE) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.5	Development of provisions for gas-fuelled ships (co-ordinated by BLG)	2008	MSC 78/26, paragraph 24.39; DE 50/27, section 7
H.6	Test standards for extended service intervals of inflatable liferafts	2008	MSC 78/26, paragraph 24.41; DE 50/27, section 14
H.7	Amendments to the Guidelines for ships operating in Arctic ice-covered waters (in co-operation with SLF, as necessary)	2008	MSC 79/23, paragraph 8.25; DE 50/27, section 15
H.8	Revision of the Code on Alarms and Indicators (in co-operation with appropriate sub-committees, as necessary)	2008	MSC 79/23, paragraph 20.28; DE 50/27, section 10
H.9	Amendments to the MODU Code	2008	MSC 79/23, paragraph 22.51; DE 50/27, section 11
H.10	Guidelines for uniform operating limitations of high-speed craft (in co-operation with COMSAR, NAV and SLF)	2009	MSC 81/25, paragraph 23.45; DE 50/27, section 18
H.11	Guidelines for maintenance and repair of protective coatings	2008	MSC 81/25, paragraph 23.48.1; DE 50/27, section 19
H.12	Requirements and standard for corrosion protection of means of access arrangements	2008	MSC 81/25, paragraph 23.48.2; DE 50/27, section 20
H.13	Performance standards for recovery systems	2008	MSC 81/25, paragraph 23.49.1; DE 50/27, section 21

Sub-Committee on Ship Design and Equipment (DE) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.14	Guidelines for the approval of novel life-saving appliances	2008	MSC 81/25, paragraph 23.49.2; DE 50/27, section 22
H.15	Review of MEPC.1/Circ.511 and relevant MARPOL Annex I and Annex VI requirements	2008	MEPC 55/23, paragraph 6.16; DE 50/27, section 23
H.16	Guidance to ensure consistent policy for determining the need for watertight doors to remain open during navigation	2009	SLF 49/17, paragraph 3.11; MSC 82/24, paragraph 21.47
H.17	Review of SOLAS requirements on new installation of materials containing asbestos	2009	MSC 82/24, paragraph 21.48; DE 50/27, paragraphs 25.19 to 25.21
H.18	Development of a new framework of requirements for life-saving appliances (in co-operation with FP and COMSAR as necessary and when requested by DE)	4 sessions	MSC 82/24, paragraph 21.49
H.19	Improved safety of pilot transfer arrangements (co-ordinated by NAV)	2 sessions	MSC 82/24, paragraph 21.50
H.20	Cargo oil tank coating and corrosion protection	2009	MSC 82/24, paragraphs 21.51 and 23.12; DE 50/27, paragraphs 25.15 to 25.18

Sub-Committee on Ship Design and Equipment (DE) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.21	Development of safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III	3 sessions	MSC 82/24, paragraphs 3.92 and 21.52
H.22	Interpretation of SOLAS regulations II-1/1.3 and II-1/3-6	2008	MSC 82/24, paragraphs 7.8 and 21.53; DE 50/27, paragraphs 25.24 to 25.28
H.23	Protection against noise on board ships	2 sessions	MSC 83/28, paragraph 25.41
L.1	Revision of resolution A.760(18)	2008	DE 46/32, paragraph 31.23; DE 50/27, section 16
L.2	Free-fall lifeboats with float-free capabilities	1 session	MSC 76/23, paragraphs 20.41.3 and 20.48; DE 47/25, paragraph 22.6
L.3	Guidelines on equivalent methods to reduce on-board NOx emission	2 sessions	MEPC 41/20, paragraph 8.22.1; BLG 10/19, paragraph 12.3; MEPC 55/23, paragraph 19.9

Sub-Committee on Ship Design and Equipment (DE) (continued)

		Target completion date/number of sessions needed for completion	Reference
L.4	Performance standards for protective coatings	2 sessions	MSC 76/23, paragraphs 20.41.2 and 20.48; DE 50/27, section 4
	.1 mandatory application of the Performance standard for protective coatings for void spaces on bulk carriers and oil tankers		
	.2 performance standard for protective coatings for void spaces on all types of ships		

SUB-COMMITTEE ON STABILITY AND LOAD LINES AND ON FISHING VESSELS SAFETY (SLF)

		Target completion date/number of sessions needed for completion	Reference
1	Analysis of intact stability casualty records	Continuous	MSC 70/23, paragraph 20.4; SLF 30/18, paragraphs 4.16 and 4.17
2	Analysis of damage cards	Continuous	MSC 70/23, paragraph 20.4; SLF 50/19, section 12
3	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12
H.1	Development of explanatory notes for harmonized SOLAS chapter II-1	2008	MSC 69/22, paragraph 20.60.1; SLF 50/19, section 3
H.2	Safety of small fishing vessels (in co-operation with DE, COMSAR, FP, NAV and STW, as necessary)	2010	MSC 79/23, paragraphs 11.15 and 20.32; SLF 50/19, section 5
H.3	Revision of the Intact Stability Code	2010	SLF 41/18, paragraph 3.14; SLF 50/19, section 4
H.4	Development of options to improve effect on ship design and safety of the 1969 TM Convention	2008	MSC 81/25, paragraph 23.53 SLF 50/19, section 6
H.5	Guidelines for uniform operating limitations on high-speed craft (co-ordinated by DE)	2008	MSC 81/25, paragraph 23.45; SLF 50/19, section 7

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Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety (SLF) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.6	Time-dependent survivability of passenger ships in damaged condition	2009	MSC 81/25, paragraph 23.54; SLF 50/19, section 8
H.7	Guidance on the impact of open watertight doors on existing and new ship survivability	2008	SLF 49/17, section 3; MSC 82/24, paragraph 21.56; SLF 50/19, section 15
H.8	Stability and sea-keeping characteristics of damaged passenger ships in a seaway when returning to port by own power or under tow	2008	MSC 82/24, paragraph 21.57; SLF 50/19, section 8
H.9	Guidelines for drainage systems in closed vehicle and ro-ro spaces and special category spaces (in co-operation with FP)	2009	MSC 83/28, paragraph 25.49
H.10	Guidelines for verification of damage stability requirements for tankers and bulk carriers (in co-operation with DE and STW as necessary and when requested by SLF)	2009	MSC 83/28, paragraph 25.52

SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING (STW)

		Target completion date/number of sessions needed for completion	Reference
1	Validation of model training courses	Continuous	STW 31/17, paragraph 14.4; STW 38/17, section 3
2	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; MSC 77/26, paragraphs 18.10 and 23.40.2; STW 38/17, section 10
H.1	Unlawful practices associated with certificates of competency	Continuous	MSC 71/23, paragraph 20.55.2; STW 38/17, section 4
H.2	Measures to enhance maritime security	2 sessions	MSC 75/24, paragraphs 22.9 and 22.45; STW 38/17, section 6
H.3	Comprehensive review of the STCW Convention and the STCW Code	2010	STW 37/18, section 15; MSC 81/25, paragraphs 23.57.2, 23.40.2, 23.62 and 23.63; STW 38/17, section 12
H.4	Review of the principles for establishing the safe manning levels of ships (in co-operation with NAV)	2008	MSC 81/25, paragraphs 23.58 to 23.60 STW 38/17, section 13

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2 Items printed in bold letters have been selected for the provisional agenda for STW 39.

Sub-Committee on Standards of Training and Watchkeeping (STW) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.5	Development of training standards for recovery systems	2 sessions	MSC 81/25, paragraph 23.64
H.6	Training for seafarer safety representatives	2009	MSC 82/24, paragraph 21.23
L.1	Review of the implementation of STCW chapter VII	2 sessions	MSC 72/23, paragraph 21.56; STW 35/19, section 14
L.2	Clarification of the STCW-F Convention provisions and follow-up action to the associated Conference resolutions	2 sessions	STW 34/14, paragraph 11.8

ANNEX 39**PROVISIONAL AGENDAS FOR THE FORTHCOMING SESSIONS
OF THE SUB-COMMITTEES****SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG) – 12TH SESSION***

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments
 - 4 Application of the requirements for the carriage of bio-fuels and bio-fuel blends
 - 5 Development of guidelines for uniform implementation of the 2004 BWM Convention
 - 6 Review of MARPOL Annex VI and the NO_x Technical Code
 - 7 Development of provisions for gas-fuelled ships
 - 8 Amendments to MARPOL Annex I for the prevention of marine pollution during oil transfer operations between ships at sea
 - 9 Casualty analysis
 - 10 Consideration of IACS unified interpretations
 - 11 Development of international measures for minimizing the translocation of invasive aquatic species through bio-fouling of ships
 - 12 Review of the Recommendation for material safety data sheets for MARPOL Annex I cargoes and marine fuels
 - 13 Revision of the IGC Code
 - 14 Work programme and agenda for BLG 13
 - 15 Election of Chairman and Vice-Chairman for 2009
 - 16 Any other business
 - 17 Report to the Committees

* Agenda item numbers do not necessarily indicate priority.

**SUB-COMMITTEE ON DANGEROUS GOODS, SOLID CARGOES AND CONTAINERS (DSC) –
13TH SESSION***

- Opening of the session
- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Amendments to the IMDG Code and supplements, including harmonization of the
IMDG Code with the UN Recommendations on the Transport of Dangerous Goods
 - .1 harmonization of the IMDG Code with the UN Recommendations on the
Transport of Dangerous Goods
 - .2 amendment (34-08) to the IMDG Code and supplements
- 4 Amendments to the BC Code, including evaluation of properties of solid bulk cargoes
- 5 Casualty and incident reports and analysis
- 6 Extension of the BLU Code to include grain
- 7 Review of the Recommendations on the safe use of pesticides in ships
- 8 Guidance on protective clothing
- 9 Revision of the Code of safe practice for ships carrying timber deck cargoes
- 10 Form and procedure for approval of the Cargo securing manual
- 11 Mandatory application of the provisions on safe working conditions for securing of
containers
- 12 Stowage of water-reactive materials
- 13 Amendments to the International Convention for Safe Containers, 1972
- 14 Review of Guidelines for packing of cargo transport units
- 15 Work programme and agenda for DSC 14
- 16 Election of Chairman and Vice-Chairman for 2009
- 17 Any other business
- 18 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON FIRE PROTECTION (FP) – 52ND SESSION*

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Performance testing and approval standards for fire safety systems
 - 4 Comprehensive review of the Fire Test Procedures Code
 - 5 Review of fire safety of external areas on passenger ships
 - 6 Measures to prevent fires in engine-rooms and cargo pump-rooms
 - 7 Fire resistance of ventilation ducts
 - 8 Review of the SPS Code
 - 9 Application of requirements for dangerous goods in package form in SOLAS and the 2000 HSC Code
 - 10 Unified interpretation on the number and arrangement of portable extinguishers
 - 11 Development of provisions for gas-fuelled ships
 - 12 Consideration of IACS unified interpretations
 - 13 Fixed hydrocarbon gas detection systems on double-hull oil tankers
 - 14 Clarification of SOLAS chapter II-2 requirements regarding interrelation between central control station and safety centre
 - 15 Analysis of fire casualty records
 - 16 Measures to prevent explosions on oil and chemical tankers transporting low-flash point cargoes
 - 17 Recommendation on evacuation analysis for new and existing passenger ships
 - 18 Work programme and agenda for FP 53
 - 19 Election of Chairman and Vice-Chairman for 2009
 - 20 Any other business

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI) – 16TH SESSION*

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Responsibilities of Governments and measures to encourage flag State compliance
 - 4 Mandatory reports under MARPOL
 - 5 Port reception facilities-related issues
 - 6 Casualty statistics and investigations
 - 7 Harmonization of port State control activities
 - 8 Development of guidelines on port State control under the 2004 BWM Convention
 - 9 PSC Guidelines on seafarers' working hours
 - 10 Comprehensive analysis of difficulties encountered in the implementation of IMO instruments
 - 11 Review of the Survey Guidelines under the HSSC (resolution A.948(23))
 - 12 Consideration of IACS Unified Interpretations
 - 13 Illegal, unregulated and unreported (IUU) fishing and implementation of resolution A.925(22)
 - 14 Review of the Code for the Implementation of Mandatory IMO Instruments
 - 15 Work programme and agenda for FSI 17
 - 16 Election of Chairman and Vice-Chairman for 2009
 - 17 Any other business
 - 18 Report to the Committees

* Agenda item numbers do not necessarily indicate priority.

**SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR) –
12TH SESSION***

- Opening of the session
- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Global Maritime Distress and Safety System (GMDSS)
 - .1 matters relating to the GMDSS Master Plan
 - .2 operational and technical co-ordination provisions of maritime safety information (MSI) services, including review of the related documents
- 4 ITU maritime radiocommunication matters
 - .1 Radiocommunication ITU-R Study Group 8 matters
 - .2 ITU World Radiocommunication Conference matters
- 5 Satellite services (Inmarsat and COSPAS-SARSAT)
- 6 Matters concerning search and rescue, including those related to the 1979 SAR Conference and the implementation of the GMDSS
 - .1 harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters
 - .2 plan for the provision of maritime SAR services, including procedures for routing distress information in the GMDSS
 - .3 medical assistance in SAR services
- 7 Developments in maritime radiocommunication systems and technology
- 8 Revision of the IAMSAR Manual
- 9 Replacements for use of NBDP (radio telex) for maritime distress and safety communications in maritime MF/HF bands
- 10 Guidelines for uniform operating limitations of high-speed craft
- 11 Development of an e-navigation strategy
- 12 Work programme and agenda for COMSAR 13
- 13 Election of Chairman and Vice-Chairman for 2009
- 14 Any other business
- 15 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON SAFETY OF NAVIGATION (NAV) – 54TH SESSION*

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Routeing of ships, ship reporting and related matters
 - 4 Development of guidelines for IBS, including performance standards for bridge alert management
 - 5 Amendments to the General Provisions on Ships' Routeing
 - 6 Carriage requirements for a bridge navigational watch alarm system
 - 7 Review of COLREGs regarding the right of way of vessels over pleasure craft
 - 8 Amendments to COLREG Annex I related to colour specification of lights
 - 9 ITU matters, including Radiocommunication ITU-R Study Group 8 matters
 - 10 Code of conduct during demonstrations/campaigns against ships on high seas
 - 11 Measures to minimize incorrect data transmissions by AIS equipment
 - 12 Worldwide radionavigation system (WWRNS)
 - 13 Development of an e-navigation strategy
 - 14 Development of carriage requirements for ECDIS
 - 15 Guidelines for uniform operating limitations of high-speed craft
 - 16 Guidelines on the layout and ergonomic design of safety centres on passenger ships
 - 17 Review of vague expressions in SOLAS regulation V/22
 - 18 Revision of the Guidance on the application of AIS binary message
 - 19 Improved safety of pilot transfer arrangements
 - 20 Casualty analysis

* Agenda item numbers do not necessarily indicate priority.

- 21 Consideration of IACS unified interpretations
- 22 Work programme and agenda for NAV 55
- 23 Election of Chairman and Vice-Chairman for 2009
- 24 Any other business
- 25 Report to the Maritime Safety Committee

SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT (DE) – 51ST SESSION*

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Amendments to resolution A.744(18)
 - 4 Development of provisions for gas-fuelled ships
 - 5 Review of the SPS Code
 - 6 Revision of the Code on Alarms and Indicators
 - 7 Amendments to the MODU Code
 - 8 Measures to prevent accidents with lifeboats
 - 9 Compatibility of life-saving appliances
 - 10 Test standards for extended service intervals of inflatable liferafts
 - 11 Amendments to the Guidelines for ships operating in Arctic ice-covered waters
 - 12 Revision of resolution A.760(18)
 - 13 Guidelines for uniform operating limitations of high-speed craft
 - 14 Guidelines for maintenance and repair of protective coatings
 - 15 Requirements and standard for corrosion protection of means of access arrangements
 - 16 Performance standards for recovery systems
 - 17 Guidelines for the approval of novel life-saving appliances
 - 18 Review of MEPC.1/Circ.511 and relevant MARPOL Annex I and Annex VI requirements
 - 19 Guidance to ensure consistent policy for determining the need for watertight doors to remain open during navigation
 - 20 Cargo oil tank coating and corrosion protection

* Agenda item numbers do not necessarily indicate priorities.

- 21 Interpretation of SOLAS regulations II-1.3 and II-1/3-6
- 22 Review of SOLAS requirements on new installation of materials containing asbestos
- 23 Consideration of IACS unified interpretations
- 24 Definition of the term “bulk carrier”
- 25 Work programme and agenda for DE 52
- 26 Election of Chairman and Vice-Chairman for 2009
- 27 Any other business
- 28 Report to the Maritime Safety Committee

**SUB-COMMITTEE ON STABILITY AND LOAD LINES AND ON FISHING VESSELS SAFETY (SLF) –
51ST SESSION***

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Development of explanatory notes for harmonized SOLAS chapter II-1
 - 4 Revision of the Intact Stability Code
 - 5 Safety of small fishing vessels
 - 6 Development of options to improve effect on ship design and safety of the 1969 TM Convention
 - 7 Guidelines for uniform operating limitations on high-speed craft
 - 8 Time dependant survivability of passenger ships in damaged condition
 - 9 Consideration of IACS unified interpretations
 - 10 Guidance on the impact of open watertight doors on existing and new ship survivability
 - 11 Stability and sea-keeping characteristics of damaged passenger ships in a seaway when returning to port by own power or under tow
 - 12 Guidelines for drainage systems in closed vehicle and ro-ro spaces and special category spaces
 - 13 Guidelines for verification of damage stability requirements for tankers and bulk carriers
 - 14 Work programme and agenda for SLF 52
 - 15 Election of Chairman and Vice-Chairman for 2009
 - 16 Any other business
 - 17 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING (STW) – 39TH SESSION*

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Validation of model training courses
 - 4 Unlawful practices associated with certificates of competency
 - 5 Training for seafarer safety representatives
 - 6 Casualty analysis
 - 7 Comprehensive review of the STCW Convention and the STCW Code
 - 8 Review of the principles for establishing the safe manning levels of ships
 - 9 Work programme and agenda for STW 40
 - 10 Election of Chairman and Vice-Chairman for 2009
 - 11 Any other business
 - 12 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

ANNEX 40**STATEMENT BY THE DELEGATION OF THE MARSHALL ISLANDS****Introduction of the proposal of the LRIT Consortium in
relation to the establishment and operation of the
International LRIT Data Centre and International LRIT Data Exchange**

Good morning Mr. Chairman and Honourable delegates. In introducing this paper, the Marshall Islands wishes to explicitly reiterate to the Committee, for absolute clarity, that the Administration, because of its active involvement in the development of LRIT, has been requested to and is acting solely as a conduit for the submission of the proposal in the annex to document MSC 83/6/6 on behalf of an LRIT Consortium, which, as it turns out, is the only response to the LRIT Coordinator's RFP for the development and operation of the IDC and IDE. The Marshall Islands emphasize that, as indicated in paragraph 4 of the aforementioned document, we have submitted the proposal without obligation or intent to be involved in any way in the activities of the Consortium, including that of the hosting of the IDE and IDC.

The Consortium partners consist of Pole Star Space Applications Limited as lead contractor (a legal entity incorporated in the United Kingdom), GateHouse A/S (incorporated in Denmark) and Wallem Innovative Solutions Inc. (incorporated in the Philippines), with services provided by Singapore Telecommunications Limited (SingTell) (incorporated in Singapore). Collectively, the Consortium's core competencies cover all the necessary areas required to both develop the LRIT System in a timely manner – and may I remind you all that this is by the 30th June 2008 next year, – and operate the System in accordance with the associated Performance Standards. Each of the partners has a high professional standing in their respective maritime fields; Pole Star – in the provision of commercial LRIT services to shipping, GateHouse – in the provision of advanced AIS data management solutions, Wallem Innovative Solutions – in the provision of offshore user support services, and SingTel – in the provision of hosting and satellite communication services.

Now on to the high-level detail of their proposal. With regard to project management, a senior management team will be put in place to ensure effective project execution and budgetary control. Pole Star, as the lead contractor located in London and consequently with easy access to both IMSO and/or the IMO, would have the responsibility of overall project management and be Consortium point-of-contact, and for this would provide a dedicated project manager. GateHouse would have responsibility for technical management and for this would provide a dedicated technical manager to liaise closely with the Pole Star project manager. All options would be considered with respect to the most efficient utilisation of the project manager including possible secondment to, or co-location at IMSO or the IMO.

In terms of project implementation, in order for an operationally-compliant System to be implemented in the shortest possible timeframe with the minimum of risk, the proposal sets out a two-phase approach each having two sub-phases as follows:

Phase 1a – which relates to system development – proposes the development of a System operationally compliant to the Performance Standards using existing proven and resilient commercial systems. The commercial systems to be used would be enhanced to comply with specifically, the communication protocol, system security, and external interface to the Data Distribution Plan (DDP) - as defined in the technical specifications developed by the *Ad-Hoc* Engineering Group.

Phase 1b is a 3-year operational phase where the System is utilized by Contracting Governments for tracking ships in a combination of flag, port, and coastal State capacities.

Phase 2a relates to an upgrade of the System to be fully technically compliant with the technical specifications developed by the *Ad Hoc* Engineering Group; and

Phase 2b is a 2-year operational phase.

With regard to technical management, in order to take advantage of co-development, co-location and co-management efficiencies the proposal sets out the IDC and IDE as an integrated development (although in reality the IDC and IDE are two physical entities hosted on separate servers with separate back-up and redundancy strategies in place). User support will be critical to the success of the overall LRIT program, and the proposal sets out a 24/7 user support operations centre, managed and operated by Wallem Innovative Solutions using its Clark facility in the Philippines. Similarly, system hosting and network services would be of crucial importance, and the proposal sets out a data network centre managed and operated by SingTel using its EXPAN-Singapore world-class facility. With respect to airtime, in order to take advantage of bulk purchase discounts it is further proposed to enter into a service agreement with SingTel for the provision of Inmarsat C and Iridium airtime for Sea Areas A1-A3 and A4 respectively.

With regard to financial management, a complete Phase 1 costing of eleven million pounds sterling is presented, consisting of six hundred and fifty thousand pounds to fund the Phase 1a system development and ten million three hundred and fifty thousand pounds for the full three year Phase 1b operations. In order to fund this, the proposal puts forward a simple dual-user financial model whereby a Contracting Government is a “provider” and/or “user” of System services, i.e. a Contracting Government providing its flagged-ships to the System for LRIT management and a Contracting Government using the System to obtain LRIT information respectively. To participate in the System, all Contracting Governments, both providers and users, would be required to take out a funded subscription.

For purposes of financial modelling the proposal assumes a total of twenty thousand ships would be managed by the System on behalf of those Contracting Governments not establishing an NDC, or joining an RDC or CDC. To fund a System supporting this volume of ships to the expected compliance-level requires commitment from Contracting Governments to provide start-up development funding and an ongoing operational commitment to utilise LRIT information. Without start-up commitment, the System could not be developed and without operational commitment the System would not be sustainable. To this end, the dual-user financial model being proposed consists firstly of a provider subscription fee payable on a per ship basis by those participating Contracting Governments requiring integration of their flagged ships into the IDC, and secondly a user fee payable by those Contracting Governments utilising LRIT information from those ships integrated into the IDC.

To summarize the financial reality, all Contracting Governments are required to contribute at different levels in order to meet the expenditures associated with ensuring the sustained financial viability of the LRIT system. The proposed financial model is designed such that the start-up development cost is borne by the data providers and the operating cost is borne by the data users. Consequently, the cost of a single position report decreases with an increase in the overall demand for position reports. In conjunction with an assumed twenty thousand ship IDC and a one hundred pound per ship provider subscription fee, the number of annual position reports required to be utilised in order to achieve a twelve and half pence or twenty-five US cent position report target price is twenty-four million. Currently there are indicative commitments of just over eight million position reports from the United States, Canada, Australia and India, i.e. only thirty-three per cent. This, of course, does not include those also indicated in MSC 83/WP.9 and as provided through Committee member interventions made at this meeting.

The primary parameters of the financial model are; the number of ships in the IDC and the associated provider subscription fee, coupled with the indicative usage commitment, and the derived position report fee. These parameters are mutually inclusive and flexible such that the levels set out in the proposal could be varied to provide a trade-off between the provider subscription fee and position report fee depending upon the number of subscribers and usage commitment.

At this point in our introduction Mr. Chairman, rather than go into any further detail on this matter, we would like to inform the Committee that we have prepared a J-paper for presentation in the Working Group detailing a revised financial model.

The revised financial model, which is being put forward also at the request of the Intersessional MSC Working Group on LRIT, separates out the subscription fee into an IDE licensing fee applicable to all participating Data Centres and an IDC commissioning fee applicable to all ships joining the IDC, and the usage fee separated into an IDE usage fee applicable to all transactions passing through the system and IDC usage fee applicable to the use of LRIT information from those ships integrated into the IDC. In order not to cross-subsidize the development and operation of the IDE and IDC, the IDE “licensing” fee funds the development of the IDE and the IDC “licensing” fee funds the development of the IDC, whilst the IDE “usage” fee funds the operation of the IDE and the IDC “usage” fee funds the operation of the IDC. This model clarifies several issues raised by the proposal. It provides a clear separation of IDE and IDC development and operations costs, and furthermore provides a logical and fair approach to the implementation of LRIT. The J-paper when presented will also allow us to detail the variable relationship between the primary parameters, the impact of any reduction in the number of ships using the IDC, the sliding scale of indicative usage against resultant position report pricing, and the respective costs of an IDE or IDC-only implementation.

Finally, with regard to legal aspects and administrative housekeeping, the Consortium has taken into account the core documentation prepared by the Committee as specified in section 4.2 of the request for submission of proposals issued by IMSO, and it is the view of the Consortium that the proposal includes sufficient technical, operational, financial, legal and administrative details to allow IMSO and the IMO to evaluate the proposal, and the Committee to take a decision on where the IDE and IDC shall be located and who would operate it.

In the expectation that, in the time frame from the meeting of MSC 83, Contracting Governments do commit to a sustainable level of subscription and usage, and assuming an approved financial model, then the Consortium would commit to entering into detailed contract negotiations with IMSO and/or the IMO Secretariat in order to conclude a formal agreement for the provision of the LRIT facilities concerned. At this stage the legal aspects detailed in the request for submission of proposals issued by IMSO can be addressed with respect to data protection assurances, legal regime and organizational status. The legal formulation of the Consortium would be decided during the contract negotiation phase. A formal Joint Venture might be established between two or more of the partners or alternatively services offered by one or more of the partners might be based upon a traditional commercial service provision contract to the other partners.

Mr. Chairman, thank you and the Committee for your perseverance.

ANNEX 41**STATEMENT BY THE DELEGATION OF THE UNITED STATES**

The International Convention for the Safety of Life at Sea (SOLAS) Convention is a technical instrument, established many decades ago, for the principal purposes of protecting lives, property, and the marine environment. Our delegation is concerned that some would like to use SOLAS as a vehicle to establish compulsory individual legal rights and required legal processes; use of the SOLAS Convention for that purpose is not acceptable to this delegation. Although the United States believes that a code for casualty investigations is needed, we regret that we cannot support the Code in its current form. As presently drafted, the Code contains language that would unnecessarily bind Parties as to legal rights and procedures. These provisions, while worthy of consideration by another Committee and international bodies competent to do so, are incompatible with the technical nature of SOLAS. In fact, there already exists such an instrument under the cognizance of both the IMO Legal Committee (LEG) and International Labour Organization (ILO). That instrument, the “Joint IMO/ILO Guidelines for the Fair Treatment of Seafarers in the Event of a Maritime Accident,” is presently under review by those bodies. The issues presented by the submitted meeting documents (and debate) are essentially the same as those under discussion with regard to the Joint IMO/ILO Guidelines. Furthermore, there is significant potential for the Code as presently worded to seriously conflict with the Joint IMO/ILO Guidelines.

The SOLAS Convention has a long and successful history. In the view of this delegation, its fundamental nature should not be changed to take it beyond the competency of this Committee or perhaps even this Organization.

After careful review of the existing text of the draft Code, the Government of the United States has identified significant areas of substantive and procedural concern that would currently prevent it from allowing these amendments to enter into force for the United States. Accordingly, our delegation would suggest that the draft Code be returned to the 16th session of the Sub-Committee on Flag State Implementation for further consideration to remove individual legal rights and legal process requirements and to prevent inconsistencies with the outcomes from other bodies (i.e., LEG 93).

Translation**ANNEX 42****DECLARATION BY THE DELEGATION OF FRANCE**

We wish to inform the Committee about the inquiry report, published recently by the French Marine Accident Investigation Office (BEAmer) concerning the loss of containers in the Bay of Biscay by the **Otello**, owned by CMA CGM.

The report is now available in French on the BEAmer web site. An English version should be available online by the end of October.

The **Otello** is a container vessel, 334 m in length and with a capacity of 8238 TEUs. In February 2006, after the ship had navigated up the Spanish coast and rounded Cape Finisterre on its way to Le Havre, it was noticed in the southern Bay of Biscay that around fifty containers had been lost at sea and that several stacks had collapsed to starboard aft.

Weather conditions were difficult, with a freshening breeze and a very rough sea causing sizeable platform shift, but they were not exceptional for the area at that time of year.

The investigation revealed three groups of contributing factors:

The first concerns automatic twistlocks and their reliability;

The second concerns loading procedures, the weight of the containers, their state of repair, their securing and the influence of the cargo chain from consignors to ships.

The third relates to construction and platform shifts on ships, and to using expert systems to assist crews with the conduct of vessels.

In the particular case of the CMA CGM's **Otello**, the shipowner took immediate measures that followed the issued guidelines: replacement of automatic twistlocks on the afterdeck by semi-automatic ones; strengthened fastening, expert examinations, studies, and experimental instrumentation on a sister ship to help the operators prevent the occurrence of certain types of ship behaviour.

In more general terms, the report's conclusions complement and concur with those mentioned by the representative of the United Kingdom concerning the **Annabella**.

To our knowledge, the two reports which have just been summarized for you are not the only ones. Other reports on this type of accident exist. A study being conducted under the auspices of the MARIN laboratory should produce some particularly significant results.

This is why France has drawn the Committee's attention to this matter as one for the Organization to address urgently, with all the factors involved in both loading and transport needing to undergo thorough scrutiny as soon as possible. Several solutions are possible, either on the basis of the existing instruments or by developing a code of practice, in which regard we support the proposals of the United Kingdom delegation.

ANNEX 43

STATEMENT BY THE DELEGATION OF THE UNITED KINGDOM

We would like to inform the committee that the United Kingdom Maritime Accident Investigation Branch (MAIB) has recently published its report into an incident involving the container vessel **Annabella**, in which a container stack collapsed. The full report into the incident is available on the MAIB website at www.maib.gov.uk.

The MAIB make several recommendations which we believe will be of significant interest to the Committee.

The ship was on passage in the Baltic Sea to Helsinki and, in the evening of 25 February 2007, encountered heavy seas which caused the vessel to roll and pitch heavily. The next morning it was discovered that a stack of seven 30 foot cargo containers had collapsed, causing damage to the containers, the upper three of which contained hazardous cargo, Butylene gas (IMDG Class 2.1).

After consultation with the Finnish Maritime Authority, The ship was redirected to Kotka where the emergency services attended and specialist contractors safely unloaded the damaged hazardous containers. We would like, at this point, to express our appreciation to the Finnish Maritime Authority, the port authority at Kotka and the emergency services for their actions in addressing this incident.

The MAIB has concluded that the collapse of the cargo containers occurred because the lower containers were not strong enough to support the stack as their maximum allowable stack weight had been exceeded and no lashing bars had been applied. The MAIB considers that there are shortcomings in the flow of information relating to container stowage between the shippers, planners, the loading terminal and the vessel, with the pace of modern container operations making it very difficult for ship's staff to maintain control of the loading plan. We are aware that the MAIB has recommended that the International Chamber of Shipping (ICS) work with industry to develop, then promote adherence to, a best practice safety code and has given several recommendations on what should be referenced and included in such a code.

The United Kingdom will consider carefully all these recommendations, together with issues that are becoming apparent in the MAIB's ongoing investigation into the structural failure and flooding of the container vessel **MSC Napoli** earlier this year. The report into this incident is expected to be available early next year.

ANNEX 44**STATEMENT BY THE OBSERVER FROM ICS**

The International Chamber of Shipping (ICS) has received, and is considering in detail, the various elements of the UK MAIB recommendations arising from the **Annabella** incident. In order to do this we have already formed an industry expert group, in conjunction with the World Shipping Council. The aim of the group is to produce industry best practice guidelines and the first meeting has already been convened. I would hope that this work can be completed within 2008 and once completed it will be passed to IMO for the Committee's consideration.

We would be pleased to engage in discussion with other investigating authorities, such as France, to ensure the inclusion of as many lessons as possible from these unfortunate incidents.

I take this opportunity to urge that flag State investigation reports should be tabled at IMO, with the utmost expediency, so that industry can respond in like manner.
